Water Heater

Webasto
Feel the Drive

Thermo Top Evo Parking Heater

E1
00 0258

Installation Documentation
Ford Focus / C-Max / Grand C-Max

Validity

Manufacturer	Model	Type	EG-BE-No. / ABE
Ford	C-Max	DXA	e13 * 2007 / 46 * 1103 * ...
Ford	C-Max / Grand C-Max	DXA	e13 * 2007 / 46 * 1103 * ...
Ford	Focus	DYB	e13 * 2007 / 46 * 1138 * ...

Ford Focus

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm³	Engine code
1.0 EcoBoost	Petrol	SG	74	998	M2DA
1.0 EcoBoost	Petrol	SG	92	998	M1DA
1.6 Duratec	Petrol	SG	77	1560	IQ
1.6 Duratec	Petrol	SG	92	1560	PN
1.6 Duratec	Petrol	SG	110	1560	JQ

Ford C-Max / Grand C-Max

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm³	Engine code
1.6 Duratec	Petrol	SG	77	1560	IQ
1.6 Duratec	Petrol	SG	92	1560	PN
1.6 Duratec	Petrol	SG	110	1560	JQ

SG = manual transmission

From Model Year 2011
Left-hand drive vehicle

Verified equipment variants: Manual air-conditioning (Focus only) / Automatic air-conditioning
Front fog light
automatic Start-Stop system

Not verified: Passenger compartment monitoring

Exclusion: Not for 1.6 EcoBoost from model year 2012!

Total installation time: approx. 8 hours

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Ford Focus / C-Max / Grand C-Max

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Necessary Components

- Basic delivery scope *Thermo Top Evo* in accordance with price list
- Installation kit for Ford Focus / C-Max / Grand C-Max 2011 Petrol: **1316972A**
- Heater control in accordance with price list and upon consultation with end customer
- Extension of clock wiring harness (additionally for the installation of the digital timer): **70813B**
- In case of Telestart, indicator lamp in accordance with price list and in consultation with end customer

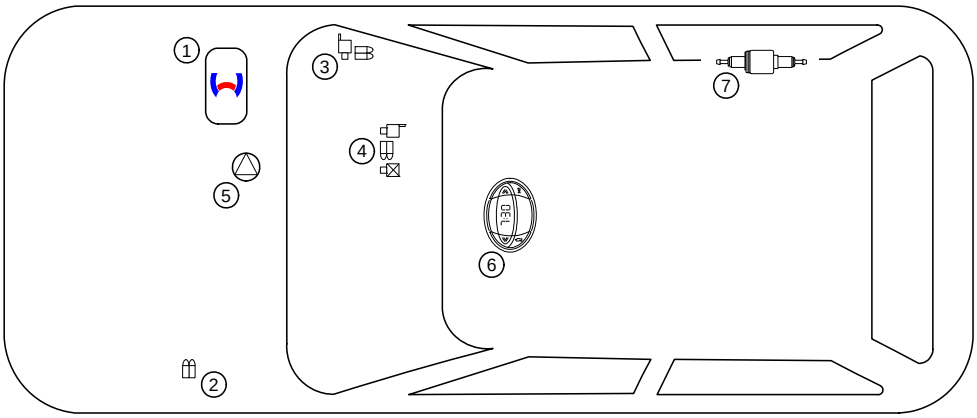
Note

To facilitate the work, the vehicle should only be delivered with a 1/4 filled tank!

Installation Overview

Legend:

1. Heater
2. Engine compartment fuse holder
3. Passenger compartment fuse holder manual air-conditioning and automatic air-conditioning for Focus
4. Passenger compartment fuse holder automatic air-conditioning for C-Max / Grand C-Max
5. Circulating pump
6. Digital timer
7. Metering pump



Information on Total Installation Time

The total installation time includes the time needed for mounting and demounting of the vehicle-specific components, the heater specific installation time and all other times required for the system integration and initial start-up of the heater.
The total installation time may vary for vehicle equipment other than provided.

Information on Operating and Installation Instructions

1 Important Information (not complete)

1.1 Installation and Repair

The improper installation or repair of Webasto heating and cooling systems can cause fire or the leakage of deadly carbon monoxide, leading to serious injury or death.

To install and repair Webasto heating and cooling systems you need to have completed a special company training course and have the appropriate technical documentation, special tools and special equipment.

Installation and repair may ONLY be carried out by persons trained and certified in a Webasto training course. NEVER try to install or repair Webasto heating or cooling systems if you have not completed a Webasto training course, you do not have the necessary technical skills and you do not have the technical documentation, tools and equipment available to ensure that you can complete the installation and repair work properly.

Only use genuine Webasto parts. See the Webasto air and water heaters accessories catalogue for this purpose.

1.2 Operation

To ensure safe operation, we recommend having the heater checked every two years by an authorised Webasto dealer, especially when used over a long period and/or under extreme environmental conditions.

Do not operate the heater in closed rooms due to the danger of poisoning and suffocation.

Always switch off the heater before refuelling.

The heater may only be used with the prescribed fuel Diesel (DIN EN 590) or petrol (DIN EN 227).

The heater may not be cleaned with a high-pressure cleaner.

1.3 Please note

ALWAYS follow all Webasto installation and operating instructions and observe all warnings.

To become familiar with and understand all functions and properties of the heater, the operating instructions must be read carefully and observed at all times.

For proper, safe installation and repair work, the installation instructions with all warnings and safety information must be carefully read and observed at all times. Please always contact a workshop authorised by Webasto for all installation and repair work.

IMPORTANT

Webasto shall assume no liability for defects, damage and injuries resulting from a failure to observe the installation, repair and operating instructions of the information contained in them.

This liability exclusion particularly applies to improper installations and repairs, installations and repairs by untrained persons or in the case of a failure to use genuine spare parts.

The liability due to culpable disregard to life, limb or health and due to damage or injuries caused by a wilful or reckless breach of duty remain unaffected, as does the obligatory product liability.

Installation should be carried out according to the general, standard rules of technology. Unless specified otherwise, fasten hoses, lines and wiring harnesses to original vehicle lines and wiring harnesses using cable ties. Insulate loose wire ends and tie back.

Sharp edges should be fitted with rub protection (split-open fuel hose)! Spray unfinished body areas, e.g. drilled holes, with anti-corrosion wax (Tectyl 100K, Order No. 111329).

Observe the instructions and guidelines of the respective vehicle manufacturer for demounting and mounting vehicle specific components!

The initial startup is to be executed with the Webasto Thermo Test Diagnosis.

When installing an IPCU, the corresponding settings must be checked or adjusted before the installation.

2 Statutory regulations governing installation

Guidelines	Thermo Top Evo
Heating Directive ECE R122	E1 00 0258
EMC Directive ECE R10	E1 03 5627

NOTE

The regulations of these guidelines are binding in the scope of the Directive 70/156/EEC and/or 2007/46/EC (for new vehicle models from 29/04/2009) and should also be observed in countries in which there are no special regulations.

IMPORTANT

Failure to follow the installation instructions will result in the invalidation of the type approval for the heater and therefore invalidation of the general **homologation of the vehicle**.

NOTE

For vehicles with an EU permit, no entry in accordance with § 19 Sub-Section 4 of Annex VIII b to the Road Traffic Act is required.

2.1 Excerpt from the directive 2001/56/EC Appendix VII for the installation of the heater

Beginning of excerpt.

ANNEX VII

REQUIREMENTS FOR COMBUSTION HEATERS AND THEIR INSTALLATION

1. GENERAL REQUIREMENTS

1.7.1. A clearly visible tell-tale in the operator's field of view shall inform when the combustion heater is switched on or off.

2. VEHICLE INSTALLATION REQUIREMENTS

2.1. Scope

2.1.1. Subject to paragraph 2.1.2. combustion heaters shall be installed according to the requirements of this Annex.

2.1.2. Vehicles of category O having liquid fuel heaters are deemed to comply with the requirements of this Annex.

2.2. Positioning of heater

2.2.1. Body sections and any other components in the vicinity of the heater must be protected from excessive heat and the possibility of fuel or oil contamination.

2.2.2. The combustion heater shall not constitute a risk of fire, even in the case of overheating. This requirement shall be deemed to be fulfilled if the installation ensures an adequate distance to all parts and suitable ventilation, by the use of fire resistant materials or by the use of heat shields.

2.2.3. In the case of M2 and M3 vehicles, the heater must not be positioned in the passenger compartment. However, an installation in an effectively sealed envelope which also complies with the conditions in paragraph 2.2.2 may be used.

2.2.4. The label referred to in paragraph 1.4 or a duplicate, must be positioned so that it can be easily read when the heater is installed in the vehicle.

2.2.5. Every reasonable precaution should be taken in positioning the heater to minimise the risk of injury and damage to personal property.

2.3. Fuel supply

2.3.1. The fuel filler must not be situated in the passenger compartment and must be provided with an effective cap to prevent fuel spillage.

2.3.2. In the case of liquid fuel heaters, where a supply separate to that of the vehicle is provided, the type of fuel and its filler point must be clearly labelled.

2.3.3. A notice, indicating that the heater must be shut down before refuelling, must be affixed to the fuelling point. In addition a suitable instruction must be included in the manufacturer's operating manual.

2.4. Exhaust system

2.4.1. The exhaust outlet must be located so as to prevent emissions from entering the vehicle through ventilators, heated air inlets or opening windows.

2.5. Combustion air inlet

2.5.1. The air for the combustion chamber of the heater must not be drawn from the passenger compartment of the vehicle.

2.5.2. The air inlet must be so positioned or guarded that blocking by rubbish or luggage is unlikely.

2.6. Heating air inlet

2.6.1. The heating air supply may be fresh or recirculated air and must be drawn from a clean area not likely to be contaminated by exhaust fumes emitted either by the propulsion engine, the combustion heater or any other vehicle source.

2.6.2. The inlet duct must be protected by mesh or other suitable means.

2.7. Heating air outlet

2.7.1. Any ducting used to route the hot air through the vehicle must be so positioned or protected that no injury or damage could be caused if it were to be touched.

2.7.2. The air outlet must be so positioned or guarded that blocking by rubbish or luggage is unlikely.

End of excerpt.

In multilingual versions the German language is binding.

Information on Validity

This installation documentation applies to Ford Focus / C-Max / Grand C-Max Petrol vehicles - for validity, see page 2 - from model year 2011 and later, assuming technical modifications to the vehicle do not affect installation, any liability claims excluded. Depending on the vehicle version and equipment, modifications may be necessary during installation with respect to this installation documentation.

Vehicle and engine types, equipment variants and specifications not listed in this installation documentation have not been tested. However, installation according to this installation documentation may be possible.

Technical Information

Special Tools
- **Hose clamp pliers for self-clamping hose clamps**
- **Hose clamp pliers for Clic hose clamps of type W**
- **Automatic wire stripper 0.2 - 6mm²**
- **Crimping pliers for cable lug / tab connector 0.5 - 6mm²**
- **Torque wrench for 2.0 - 10 Nm**
- **Hose clamping pliers**
- **Metric thread-setter kit**
- **Webasto Thermo Test diagnosis with current software**

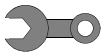
Dimensions
- **All dimensions are in mm.**

Tightening torque values
- **Tightening torque values of 5x13 heater bolts = 8Nm.**
- **Tightening torque values of 5x15 retaining plate of water connection piece bolts = 7Nm.**
- **Tighten other bolt connections in accordance with manufacturer's instructions or in accordance with state-of-the-art- technology.**

Explanatory Notes on Document

You will find an identification mark on the outside top right corner of the page in question to provide you with a quick overview of the individual working steps.

Mechanical system



Electrical system

Coolant circuit

Combustion air

Fuel

Exhaust gas

Software

Special features are highlighted using the following symbols:

Specific risk of injury or fatal accidents

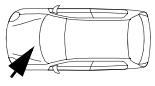
Specific risk of damage to components

Specific risk of fire or explosion

Reference to general installation instructions of the Webasto components or to the manufacturer's vehicle-specific documents

Reference to a special technical feature

The arrow in the vehicle icon indicates the position on the vehicle and the viewing angle



Ford Focus / C-Max / Grand C-Max

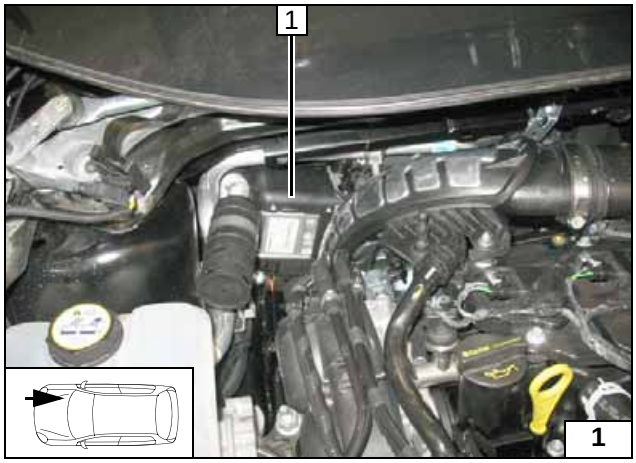
Preliminary Work

Vehicle

- **Open the fuel tank cap.**
- **Ventilate the fuel tank.**
- **Close the fuel tank cap again.**
- **Depressurise the cooling system.**
- **Disconnect and remove the battery.**
- **Remove the engine cover.**
- **Remove the windscreen wiper.**
- **Remove the cover of the coolant reservoir.**
- **Remove the cover of the coolant reservoir for the engine compartment.**
- **Drain the coolant according to the manufacturer's instructions.**
- **Remove the intake manifold.**
- **Remove the engine underride protection.**
- **Remove the underbody trim on the right next to the tank.**
- **Detach the heat protection trim of the exhaust system in the area of the tank.**
- **Remove the tank according to the manufacturer's instructions.**
- **Remove the footwell trim on the front passenger's side.**
- **Remove the glove compartment.**
- **Remove the shift lever trim.**
- **Remove the trim of the centre console.**
- **Remove the A/C control panel in accordance with the manufacturer's instructions.**
- **Remove the A-pillar trim of the footwell on the front passenger's side (only with Telestart).**

Heater

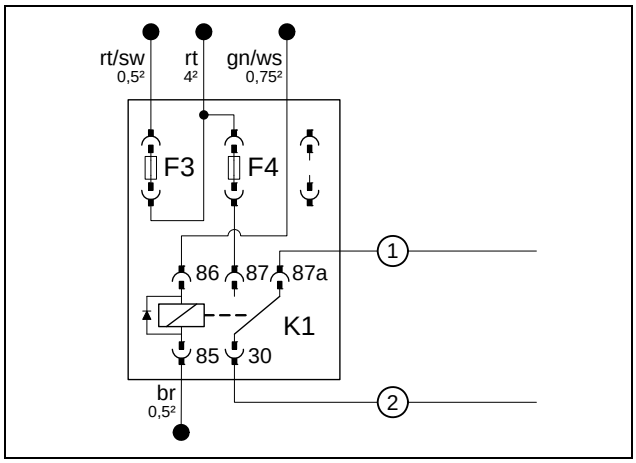
- **Remove years that do not apply from the type and duplicate label.**
- **Attach the duplicate label (type label) at the appropriate place in the engine compartment.**



Heater Installation Location

1 Heater

Installation location



Preparing Electrical System

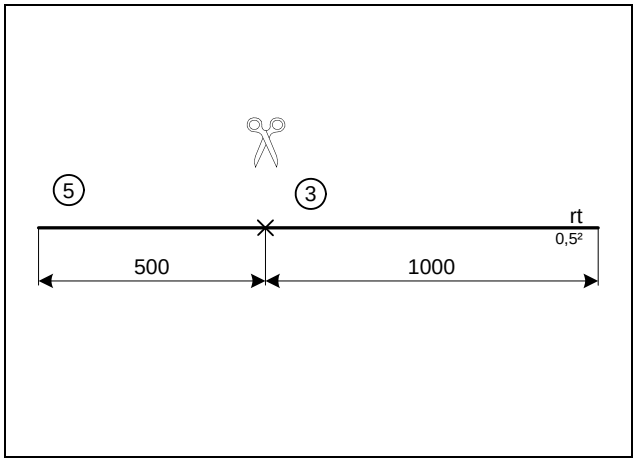
Wire sections retain their numbering in the entire document.

All equipment

Inserting F4, preparing K1 relay

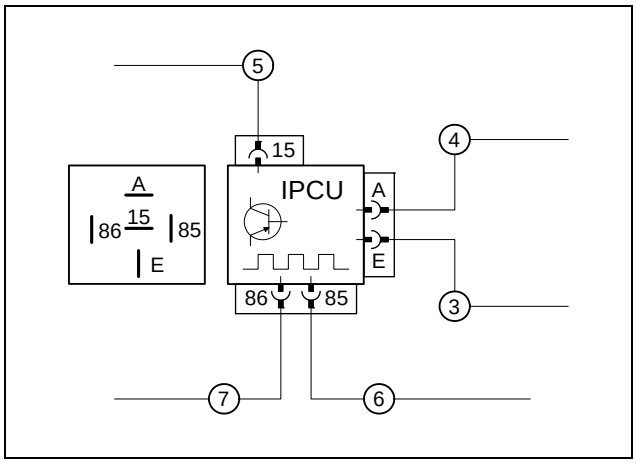
Connect wires to socket of K1 relay. Insert 25A fuse F4. K1 relay is inserted only after installing the fuse holder.

① Red (rt) wire 4²
② Black (sw) wire 4²



Automatic air-conditioning

Cutting wires to length



Connect wires to IPCU socket.
IPCU view on contact side.
The IPCU included in the kit is pre-programmed with the following settings:

Premounting IPCU

Duty cycle: 37%
Frequency: 400Hz
Voltage: 3.6V
Function: Low side

③ Red (rt) wire 0.5²
④ Black (sw) wire 0.5²
⑤ Red (rt) wire 0.5²
⑥ Brown (br) wire 0.5²
⑦ Green/white (gn/ws) wire 0.5²

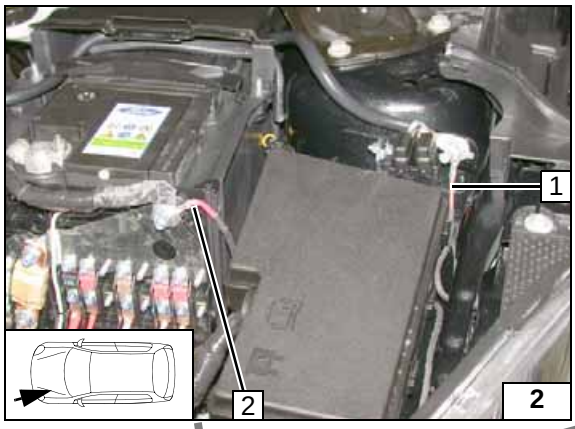
The settings are to be checked during the function check on the vehicle, and adjusted if necessary.
Pull wires **3** and **4** into the attached protective sleeving.

Electrical System

Focus

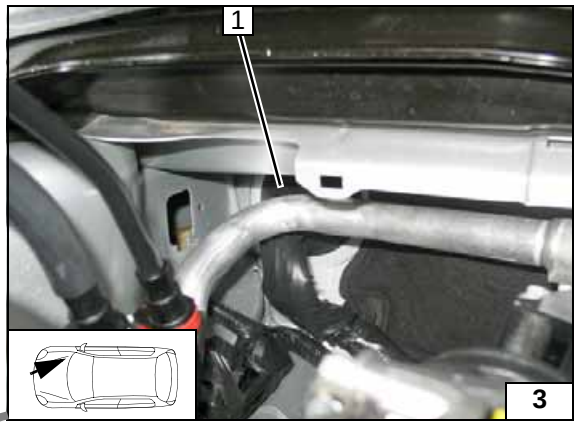
Plus and earth wire

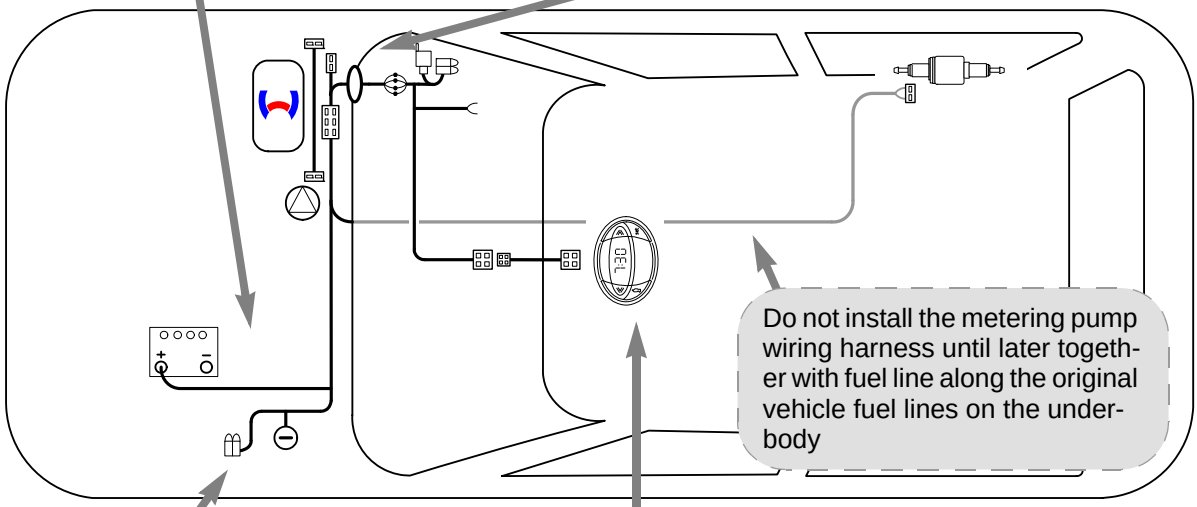
1 Earth wire, 8 mm dia. cable lug at original vehicle earth support point
2 Positive wire on positive battery terminal



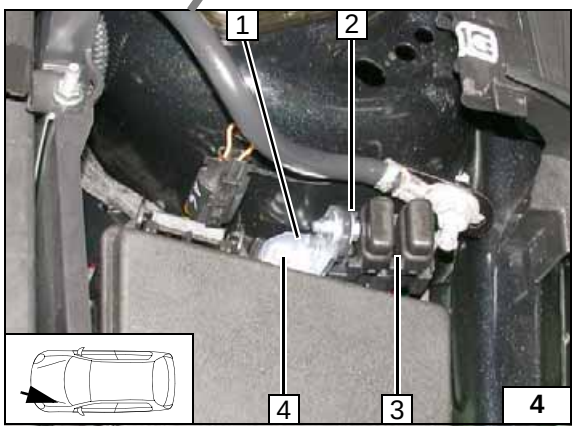
Wiring harness pass through

1 Protective rubber plug



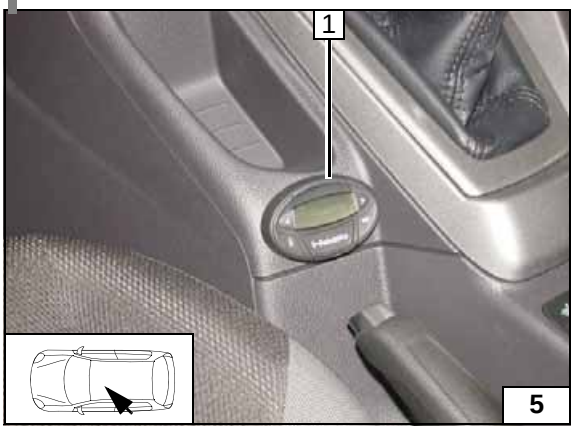

Do not install the metering pump wiring harness until later together with fuel line along the original vehicle fuel lines on the underbody

Wiring harness routing diagram (manual air-conditioning)



Fuse holder of engine compartment

1 Angle bracket
2 M5x16 bolt, large diameter washer [2x], retaining plate of fuse holder, nut
3 Fuses F1-2
4 M6x20 bolt, flanged nut, existing hole



Digital timer

Use clock cable extension when installing digital timer.

1 Digital timer

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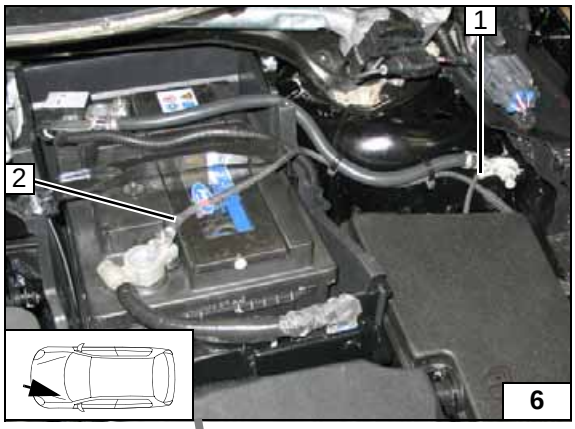
C-Max / Grand C-Max

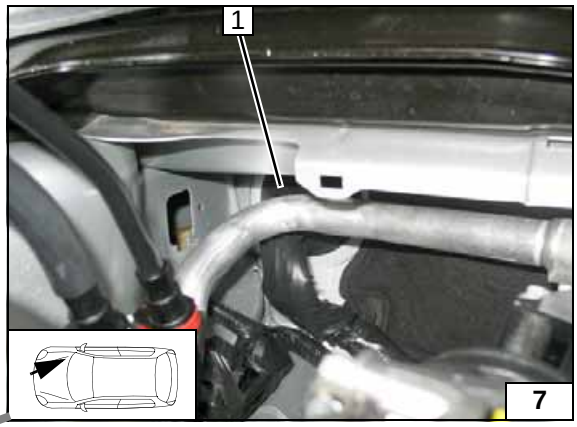
Plus and earth wire

1 Earth wire, 8 mm dia. cable lug at original vehicle earth support point
2 Positive wire on positive battery terminal

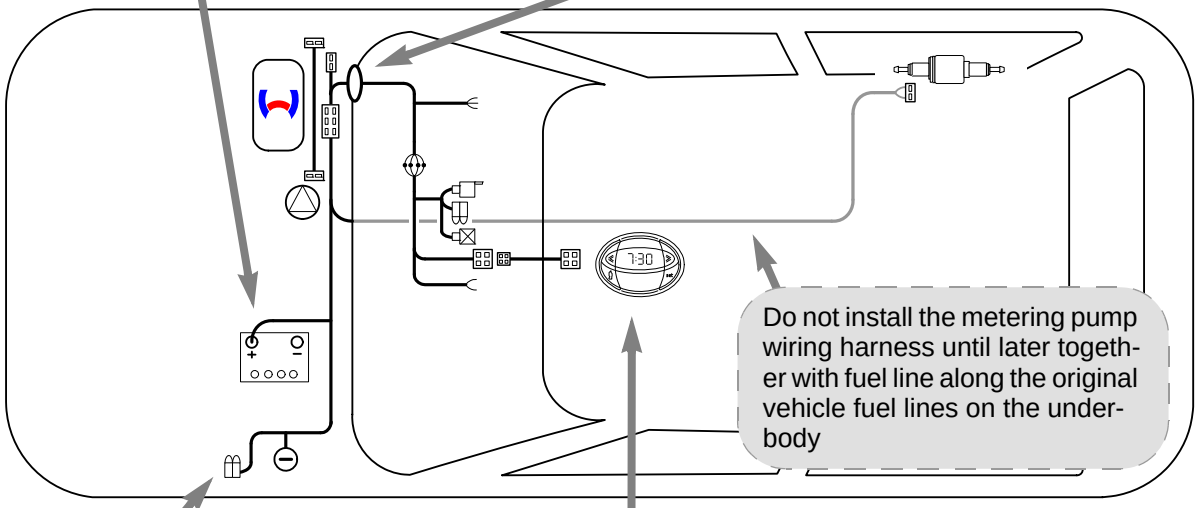


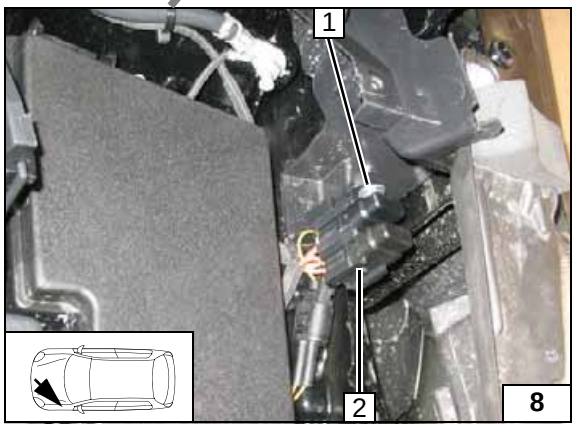
Wiring harness pass through

1 Protective rubber plug



Wiring harness routing diagram

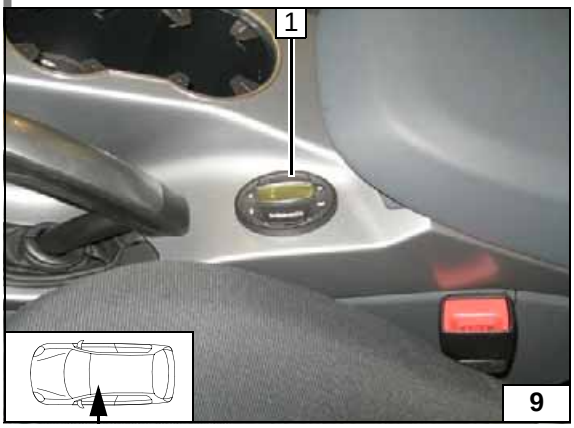

Do not install the metering pump wiring harness until later together with fuel line along the original vehicle fuel lines on the underbody



Fuse holder of engine compartment

When drilling, pay attention to components located behind.

1 5.5mm dia. hole, M5x16 bolt, large diameter washer, retaining plate of fuse holder, nut
2 Fuses F1-2



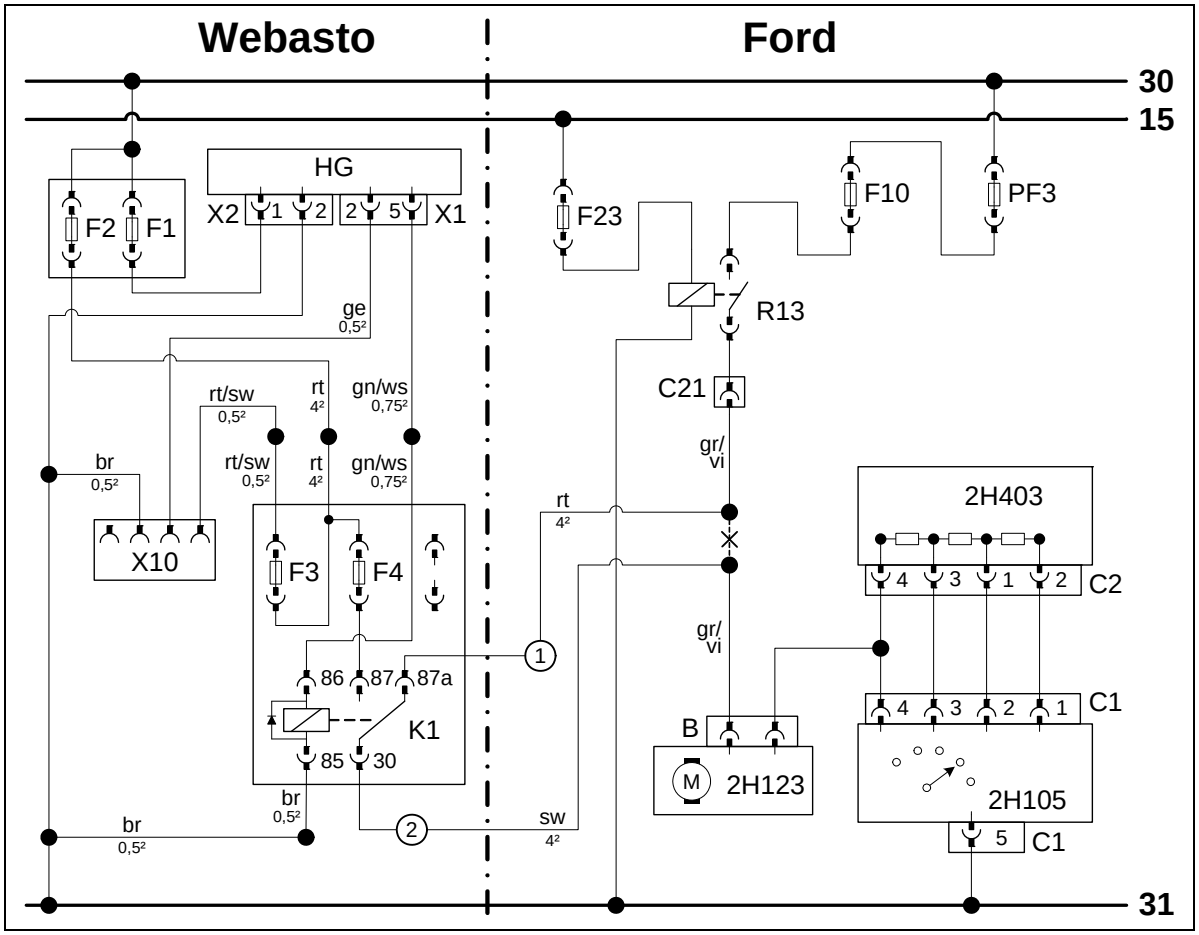
Digital timer

Use clock cable extension when installing digital timer.

1 Digital timer

Fan Controller for Manual Air-Conditioning

Wiring diagram



Legend

Webasto components		Vehicle components		Colours and symbols	
HG	Heater TT-Evo	2H403	Resistor group	rt	red
X1	6-pin heater connector	C2	Connector 2H403	sw	black
X2	2-pin heater connector	2H123	Fan motor	ge	yellow
X10	4-pin connector Heater control	B	Connector 2H123	gn	green
		2H105	Fan switch	or	orange
K1	Fan relay	C 1	Connector 2H426	ws	white
F1	20A fuse	C21	Socket connection	br	brown
F2	30A fuse	R13	Fan relay	gr	grey
F3	1A fuse	PF3	100A fuse	vi	violet
F4	25A fuse	F10	40A fuse		
		F23	5A fuse	**X**	Cutting point
				Wiring colours may vary.	

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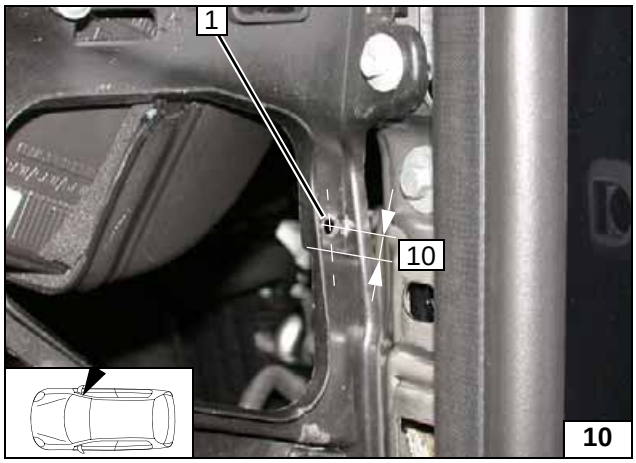
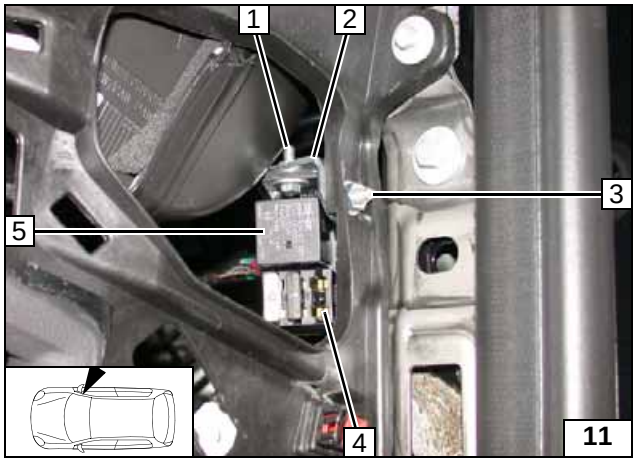


Focus

1 6.5 mm dia. hole

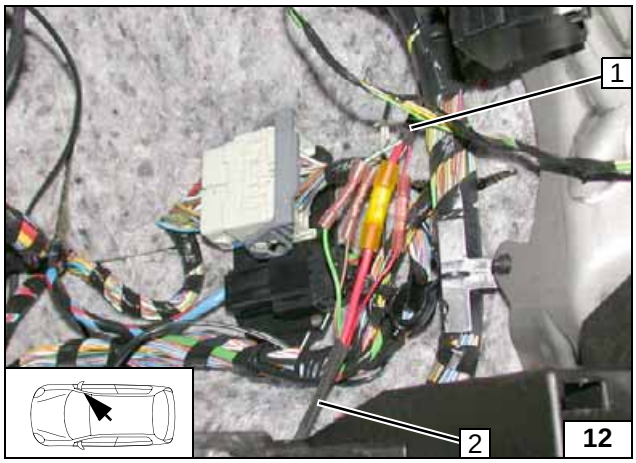
Hole for passenger compartment fuse holder



Mount K1 relay **5** after installation.

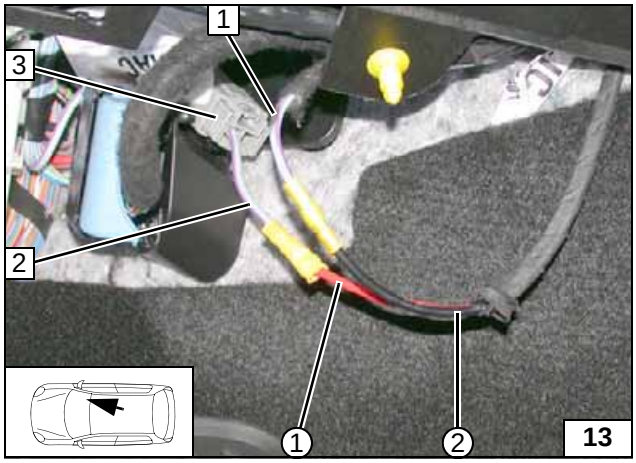
1 M5x16 bolt, large diameter washer [2x], nut
2 Angle bracket
3 M6x20 bolt, flanged nut
4 Fuse holder of passenger compartment

Mounting fuse holder of passenger compartment



Produce connections as shown in wiring diagram. Connect wiring harness of passenger compartment fuse holder **2** to wiring harness of heater **1** according to wiring diagram, in such a way that wires of the same colour are connected to each other.

Connecting wiring harnesses



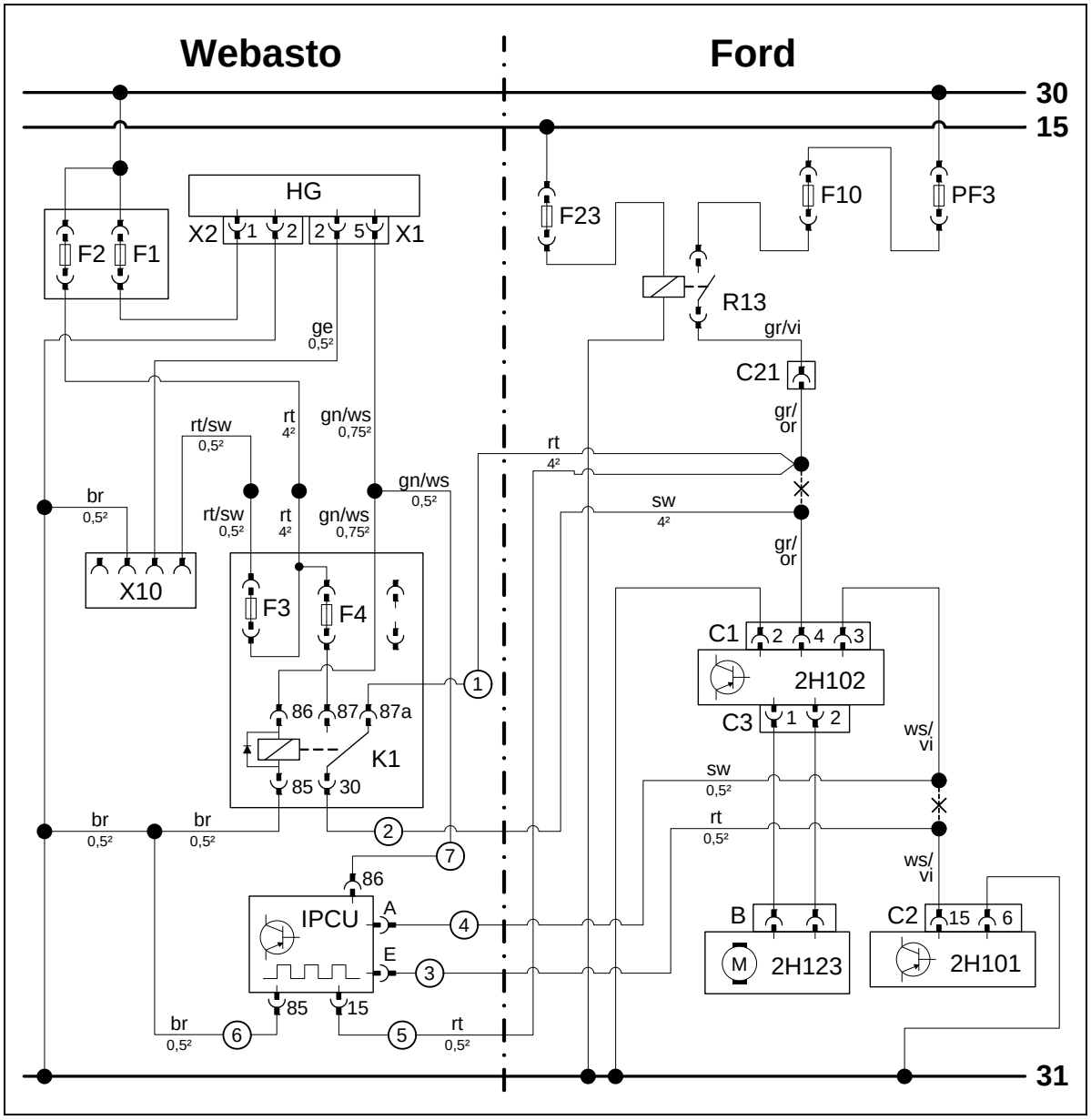
Connect to socket connector C21 **3** pin 1 before the fan motor.
Produce connections as shown in wiring diagram.

1 Grey/violet (gr/vi) wire of fan motor 2H123
2 Grey/violet (gr/vi) wire of fan relay R13
① Red (rt) wire of K1/87a
② Black (sw) wire of K1/30

Connecting fan motor

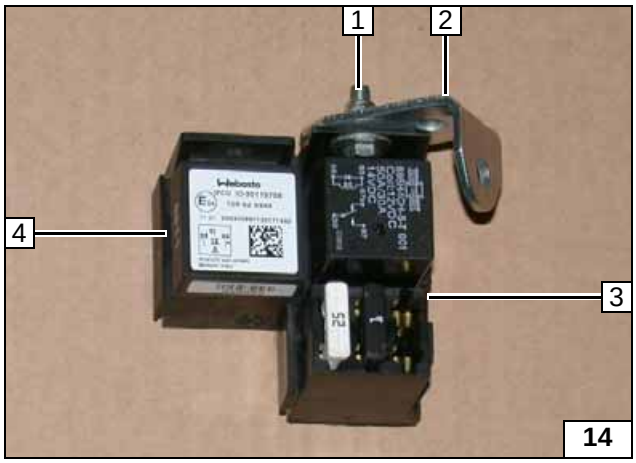
Fan Controller for Automatic Air-Conditioning

Wiring diagram



Webasto components		Vehicle components		Colours and symbols	
HG	Heater TT-Evo	2H102	Fan controller	rt	red
X1	6-pin heater connector	C1	Connector 2H102	sw	black
X2	2-pin heater connector	C3	Connector 2H102	ge	yellow
X10	4-pin connector Heater control	2H123	Fan motor	gn	green
		B	Connector 2H123	br	brown
K1	Fan relay	2H101	A/C control unit	ws	white
F1	20A fuse	C 2	Connector 2H101	gr	grey
F2	30A fuse	C21	Socket connection	vi	violet
F3	1A fuse	R13	Fan relay		
F4	25A fuse	PF3	100A fuse		
IPCU	Pulse width modulator	F10	40A fuse		
IPCU settings:		F23	5A fuse		
Duty cycle:	37%				
Frequency:	400Hz				
Voltage:	3.6V			**X**	Cutting point
Function:	Low side			Wiring colours may vary.	

Legend



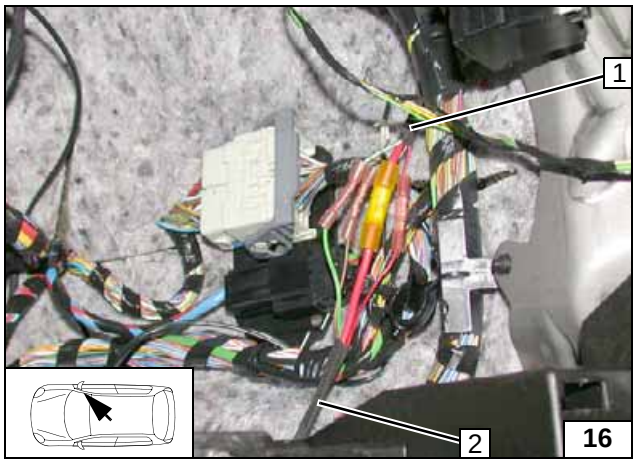
Focus

1 M5x16 bolt, large diameter washer [2x], nut
2 Angle bracket
3 Fuse and relay socket
4 Mount IPCU socket

Premounting K1 relay

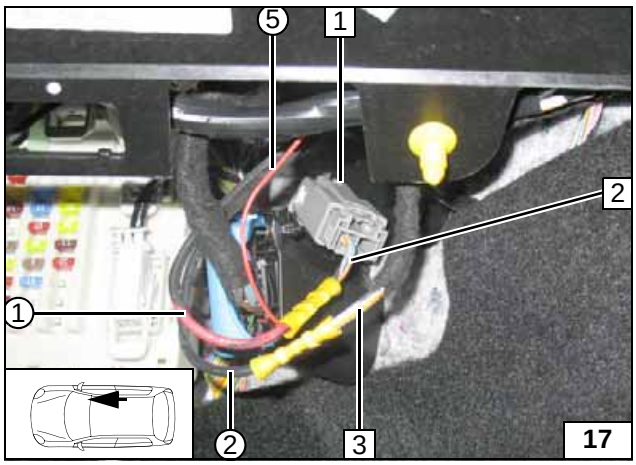
1 M6x20 bolt, flanged nut

Mounting fuse holder of passenger compartment



Produce connections as shown in wiring diagram. Connect wiring harness of passenger compartment fuse holder **2** to wiring harness of heater **1** according to wiring diagram, in such a way that wires of the same colour are connected to each other.

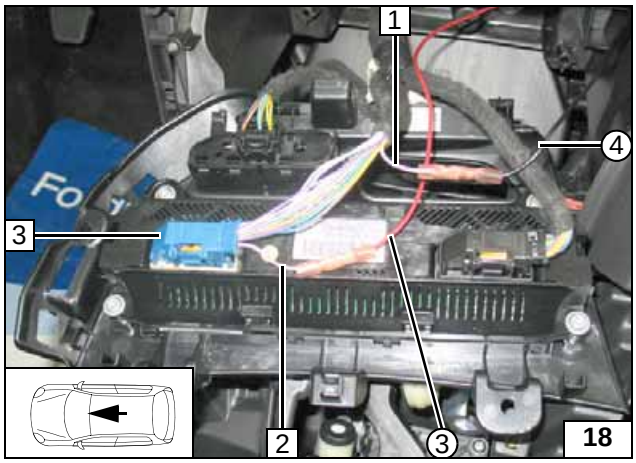
Connecting wiring harnesses



Connect to socket connector C21 **1** Pin 1 before the fan controller. Produce connections as shown in wiring diagram.

2 Green/orange (gr/or) wire of fan relay R13
3 Green/orange (gr/or) wire of fan controller 2H102
① Red (rt) wire of K1/87a
② Black (sw) wire of K1/30
⑤ Red (rt) wire of IPCU/15

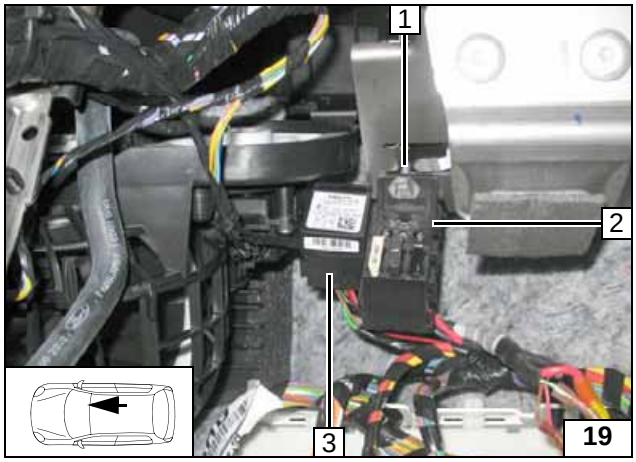
Connecting fan controller



Connect to connector C2 **3** Pin 15 from A/C control unit. Produce connections as shown in wiring diagram.

1 White/violet (ws/vi) wire of fan controller 2H102
2 White/violet (ws/vi) wire of connector C2, Pin 15
③ Red (rt) wire of IPCU/E
④ Black (sw) wire of IPCU/A

Connecting A/C control unit

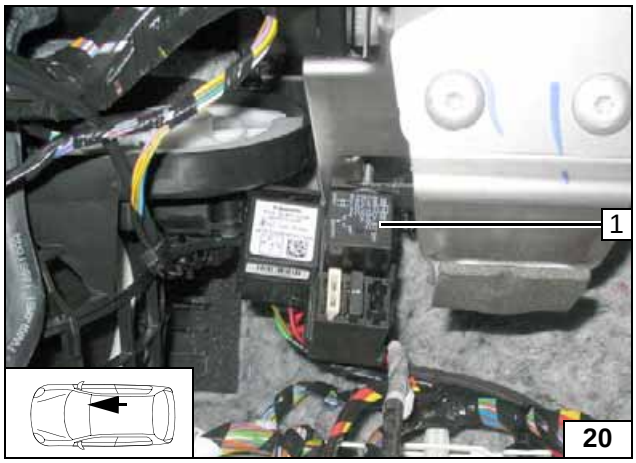


C-Max and Grand C-Max

Engage fuse holder of passenger compartment **2** in IPCU socket **3**.

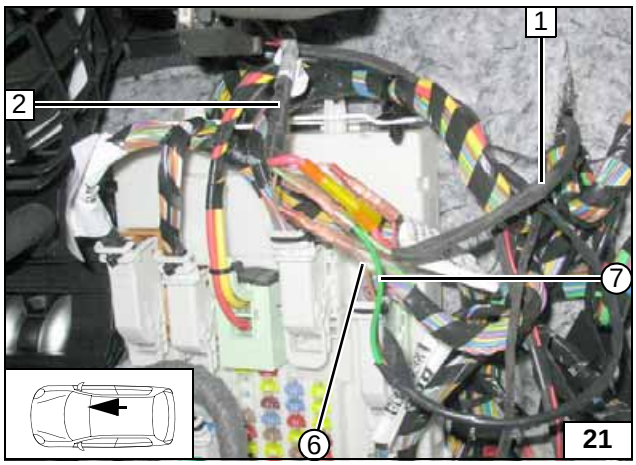
1 M5x16 bolt, large diameter washer, existing threaded hole

Mounting fuse holder of passenger compartment



1 K1 relay

Mounting K1 relay

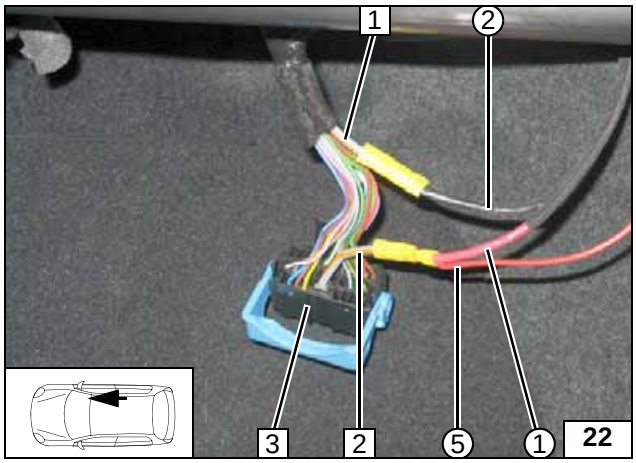


Produce connections as shown in wiring diagram. Connect wiring harness of passenger compartment fuse holder **2** to wiring harness of heater **1** according to wiring diagram, in such a way that wires of the same colour are connected to each other.

⑥ Brown (br) wire of IPCU/85
⑦ Green/white (gn/ws) wire of IPCU/86

Connecting wiring harnesses

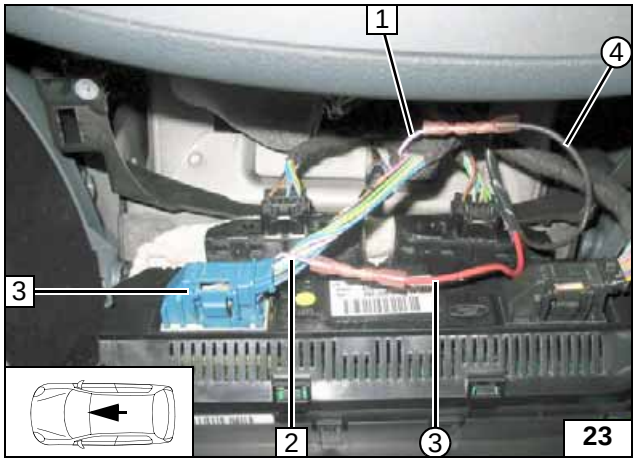
 © Webasto Thermo & Comfort SE



Connect to socket connector C21 **3** Pin 24 before the fan controller.
Produce connections as shown in wiring diagram.

1 Green/violet (gr/vi) wire of fan controller 2H102
2 Grey/violet (gr/vi) wire of fan relay R13
① Red (rt) wire of K1/87a
② Black (sw) wire of K1/30
⑤ Red (rt) wire of IPCU/15

Connecting fan controller



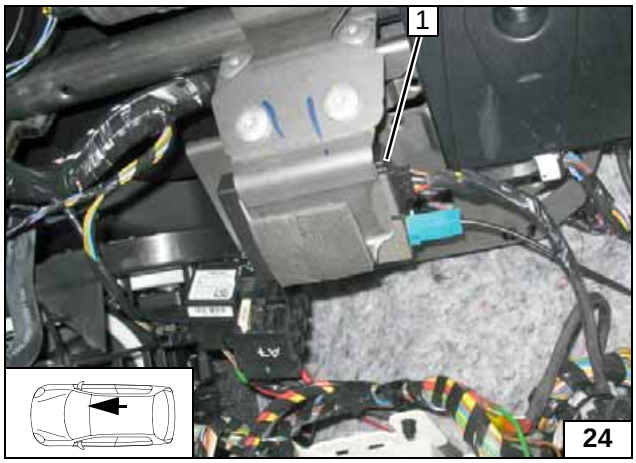
Connect to connector C2 **3** Pin 15 from A/C control unit.
Produce connections as shown in wiring diagram.

1 White/violet (ws/vi) wire of fan controller 2H102
2 White/violet (ws/vi) wire of connector C2, Pin 15
③ Red (rt) wire of IPCU/E
④ Black (sw) wire of IPCU/A

Connecting A/C control unit

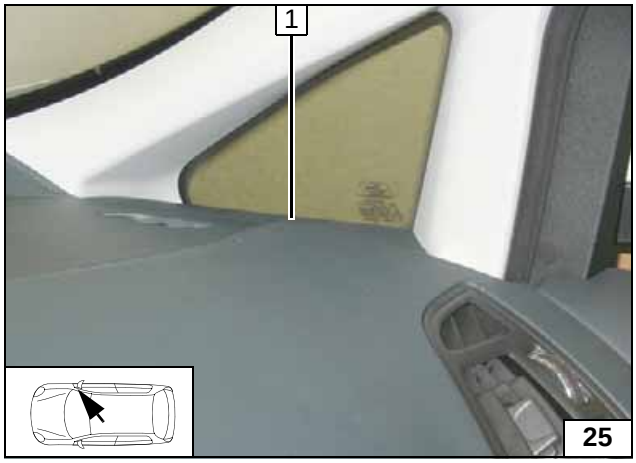
Remote Option (Telestart)

C-Max / Grand C-Max



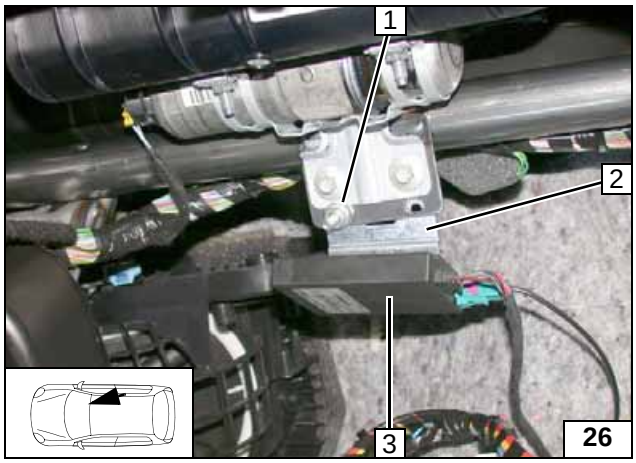
Fasten receiver **1** with adhesive tape.

Mounting receiver



1 Antenna

Mounting antenna

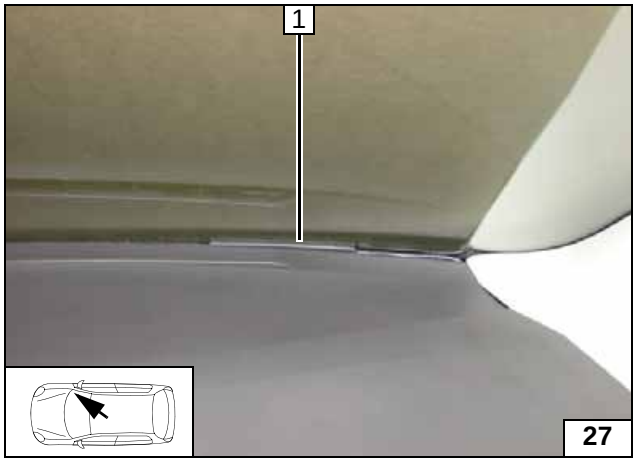


Focus

Angle down bracket of receiver **2** as shown.

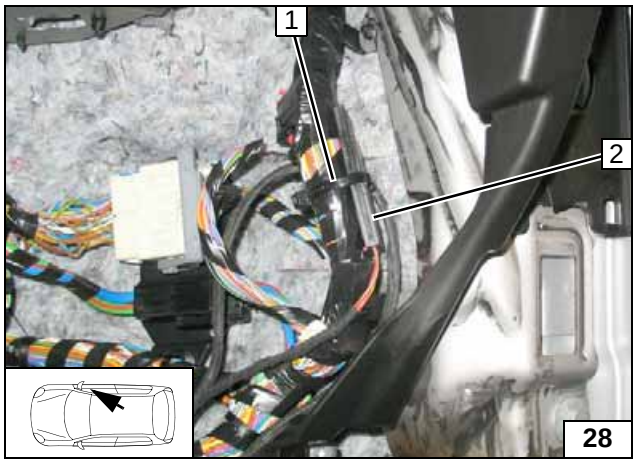
1 M6x20 bolt, flanged nut, existing hole
3 Receiver

Mounting receiver



1 Antenna

Mounting antenna



Temperature sensor T100 HTM

All vehicles

Fasten temperature sensor **2** with cable tie **1** to original vehicle wiring harness.

Mounting temperature sensor

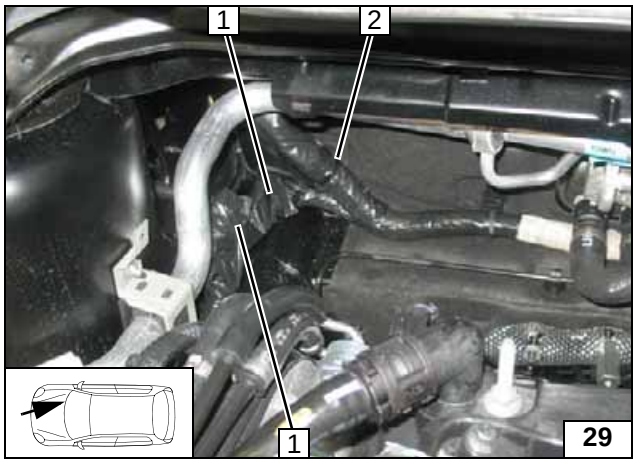
Preparing Installation Location

C-Max / Grand C-Max

Preparing installation location

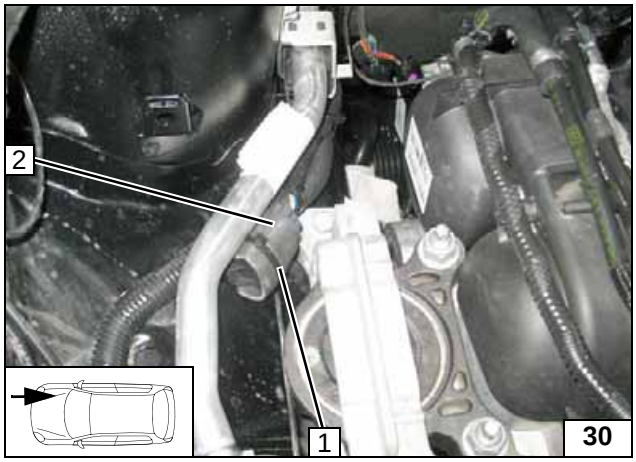
Remove insulating tape **1** from original vehicle wiring harness, uncover connector.

2 Remove cable tie (cable bracket)



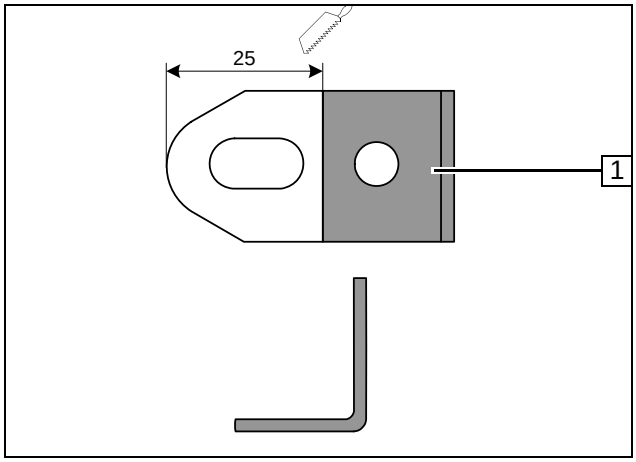
Tying back connector

Wind connector **2** with insulation strips and fasten with cable tie **1** to original vehicle wiring harness.



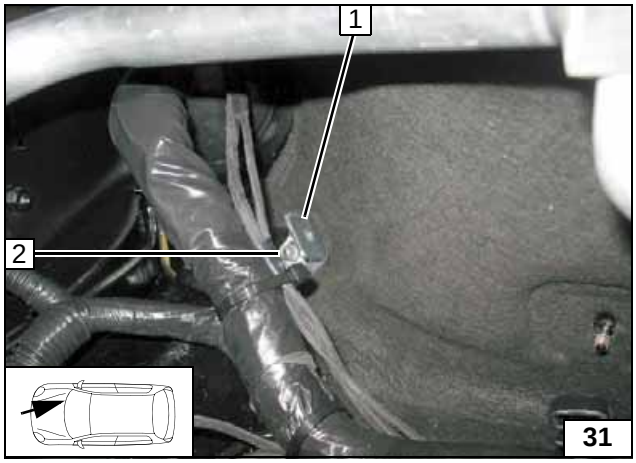
Cutting angle bracket to length

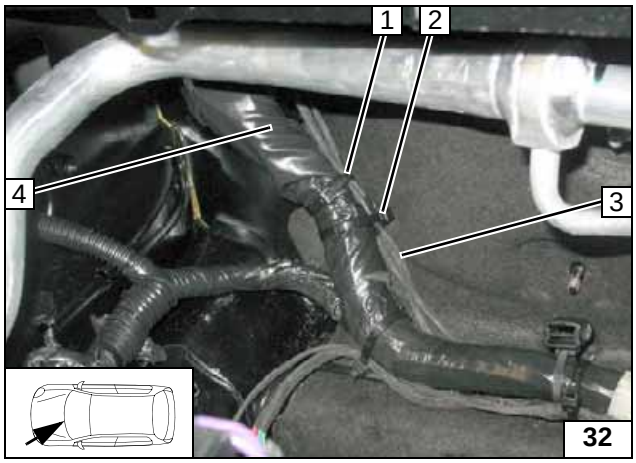
1 Angle bracket



Mounting angle bracket

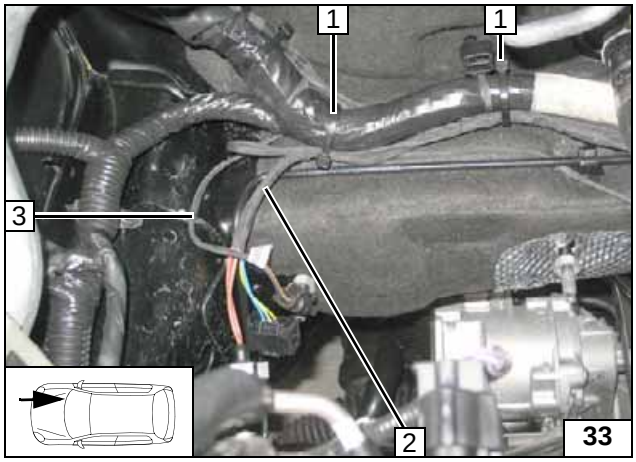
1 Angle bracket
2 Original vehicle stud bolt, plate nut





1 Cable tie, angle bracket
2 Cable tie
3 Passenger compartment wiring harnesses, heater control
4 Original vehicle wiring harness

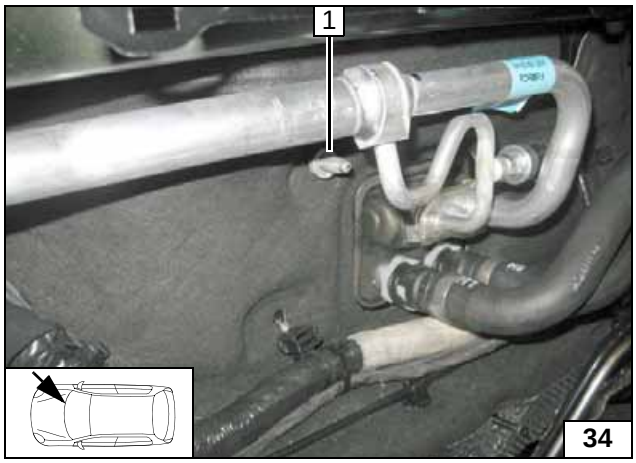
Fastening wiring harnesses



Position wiring harness of circulating pump **3** and route on the firewall to the centre.

1 Cable tie
2 Wiring harness of heater

Routing wiring harnesses



All vehicles

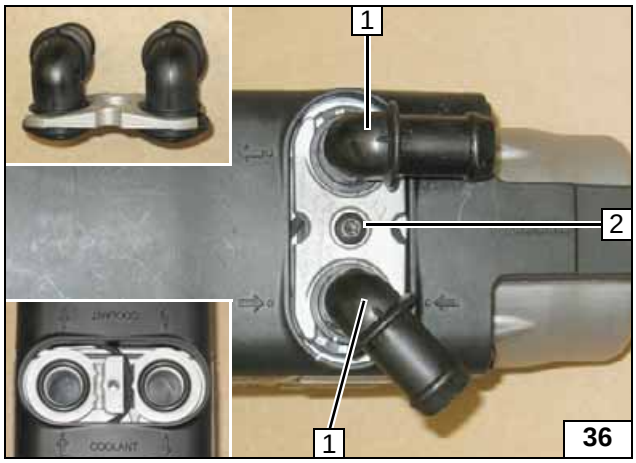
Screw on M8 flanged nut **1** approx. 25mm on original vehicle stud bolt.

Premounting flanged nut

Screw on one M8 flanged nut **1** each approx. 25mm on original vehicle stud bolts.

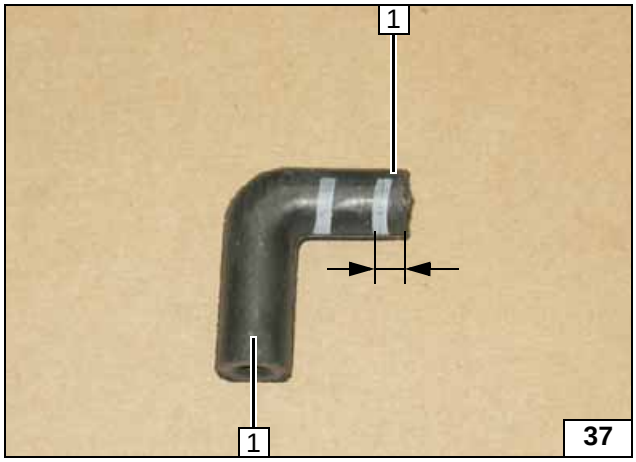
Premounting flanged nut

Preparing Heater



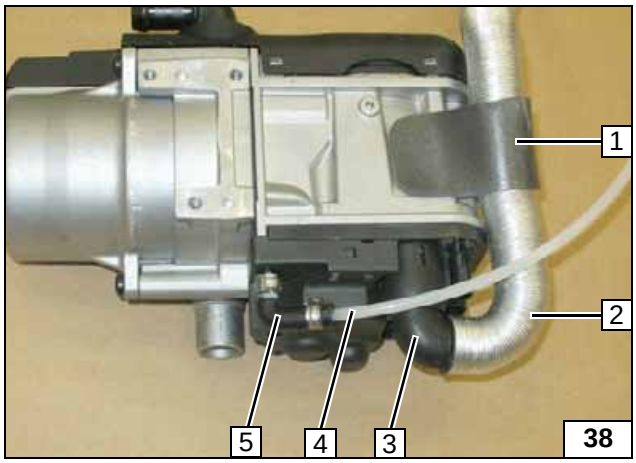
1 Water connection piece, sealing ring [2x each]
2 5x15 self-tapping bolt, retaining plate of water connection pieces

Mounting water connection pieces



1 Discard section
2 90° moulded hose

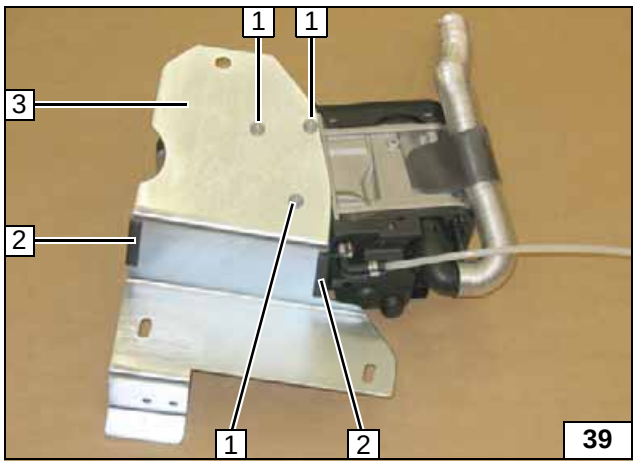
Cutting 90° moulded hose to length



Mount combustion air pipe **2** on heater with insulation strip **1** as installation aid.

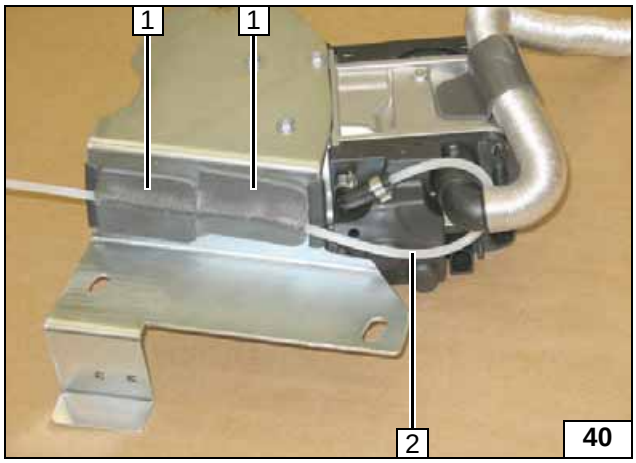
3 Air-intake manifold
4 Fuel line
5 90° moulded hose, 10 mm dia. clamp [2x]

Premounting heater



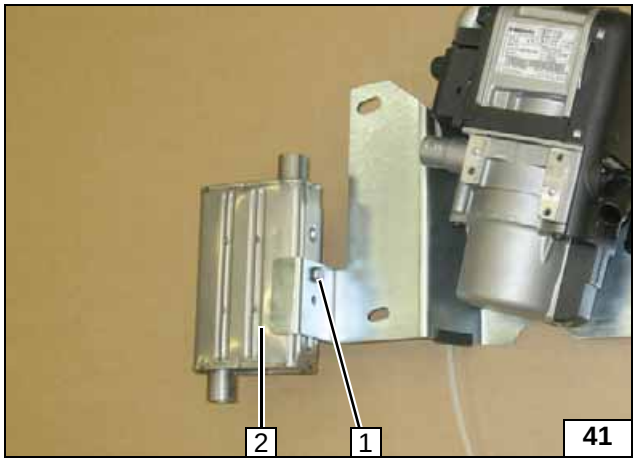
1 5x13 self-tapping bolt [3x]
2 50 mm edge protection [2x], divide at centre
3 Bracket

Mounting bracket



Fasten fuel line **2** on bracket with a half insulation strip **1** each.

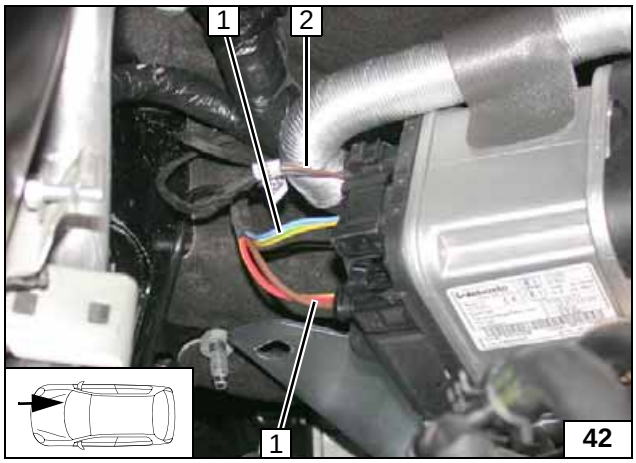
Mounting fuel line



115 kW Focus, C-Max and Grand C-Max

1 M6x16 bolt, spring lockwasher
2 Exhaust silencer

Mounting exhaust silencer

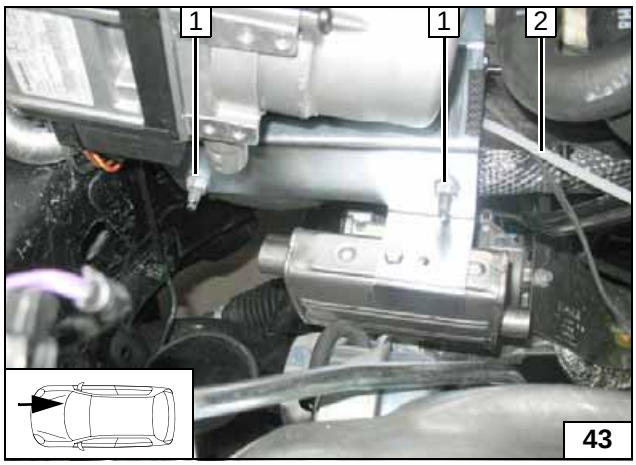


Installing Heater

Install heater on firewall.

1 Wiring harness of heater [2x]
2 Circulating pump wiring harness

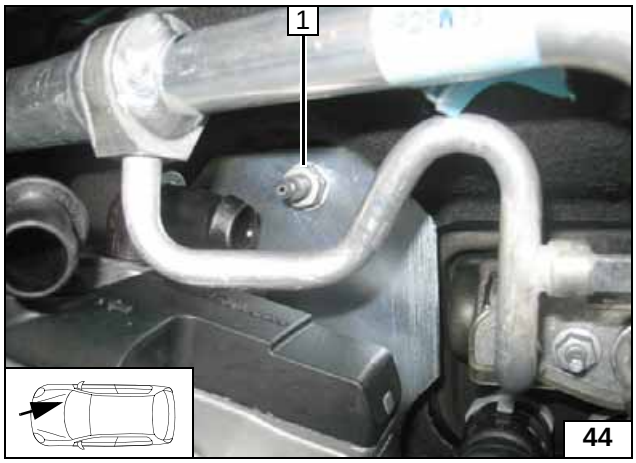
Attaching wiring harnesses



Mount heater on original vehicle stud bolt [3x]. Pull fuel line **2** with wiring harness of metering pump into 10 mm dia., 2100 mm long corrugated tube and route to the underbody along original vehicle lines.

1 M8 flanged nut [2x]

Mounting heater



1 M8 flanged nut

Mounting heater

Align heater as shown. Ensure sufficient distance from neighbouring components, especially from A/C line **1**. Correct if necessary.

Mounting heater

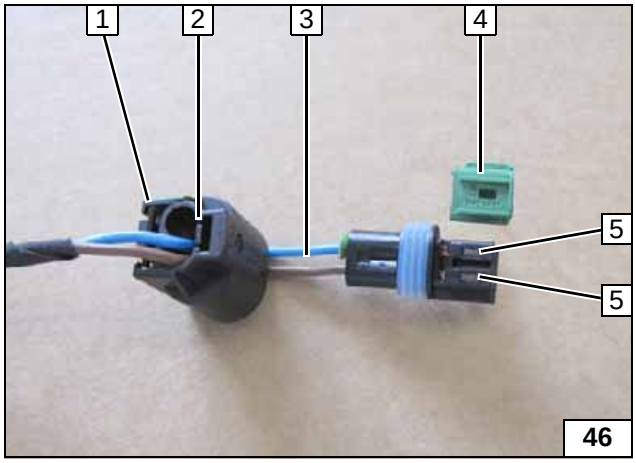
Fuel

CAUTION!
Open the vehicle's fuel tank cap, ventilate the tank and then re-close the tank lock.

Any fuel running off should be collected in an appropriate container.

Install fuel line and metering pump wiring harness so that they are protected against stone impact. Unless specified otherwise, always fasten using cable ties.
Mount the fuel line and wiring harness with rub protection on sharp edges.

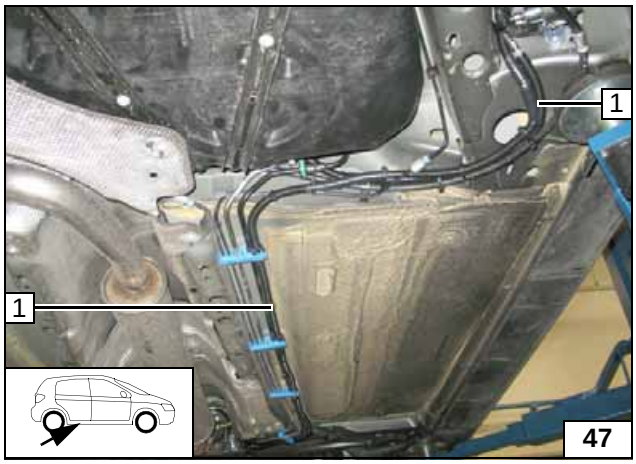
WARNING!
The fuel line and wiring harness are routed to the metering pump as shown in the wiring harness routing diagram.



Dismantling connector

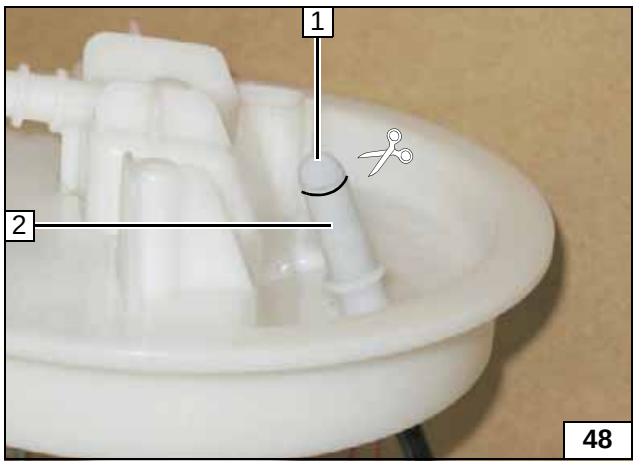
Complete connector of metering pump after routing. Pin assignment is not relevant.

1 Connector housing
2 Lock
3 Blue/brown (bl / br) wires
4 Coding
5 Timer lock



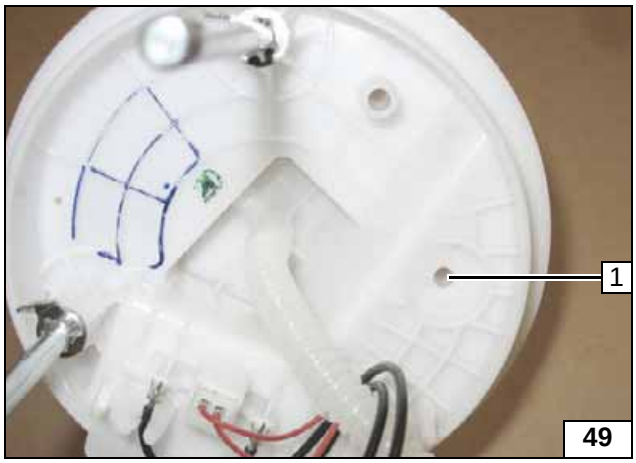
Routing lines

1 Fuel line and wiring harness of metering pump in corrugated tube



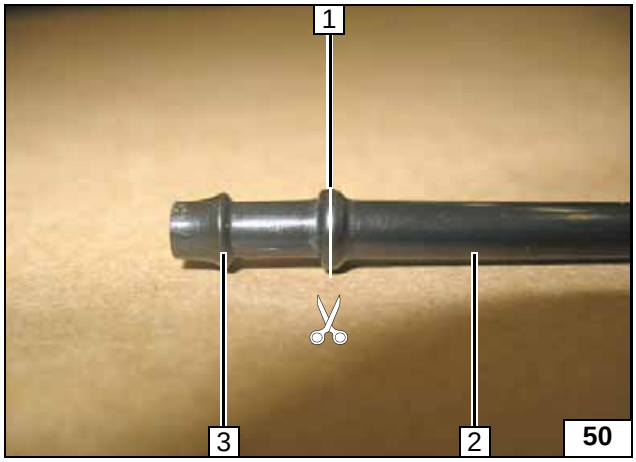
Fuel extraction

Remove fuel tank according to manufacturer's instructions. Remove and dismantle fuel-tank sending unit **1** according to manufacturer's instructions. Cut off 5mm from connection piece **2** and countersink gently.



1 Drill out 5.1 mm dia. hole

Fuel extraction



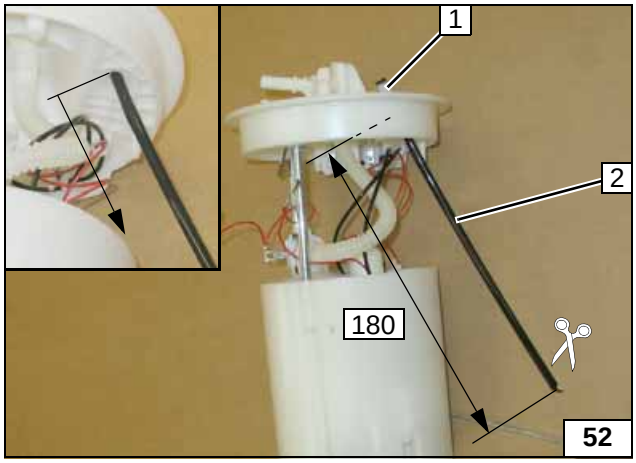
Cut standpipe **2** to length at centre in the bulge as shown.

1 Cutting point
3 Discard section

Shortening fuel standpipe

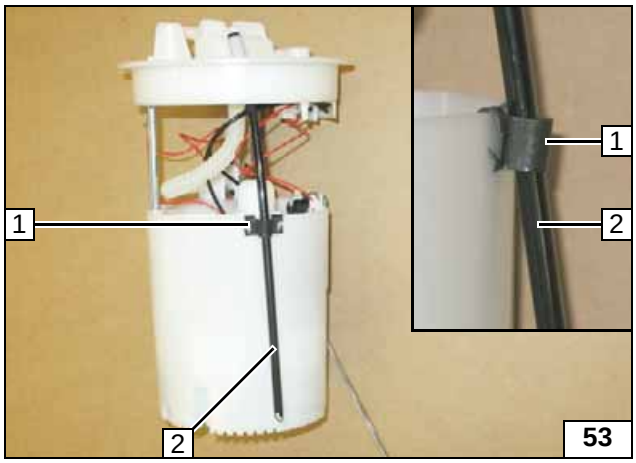
1 Connection pieces

Installing fuel standpipe



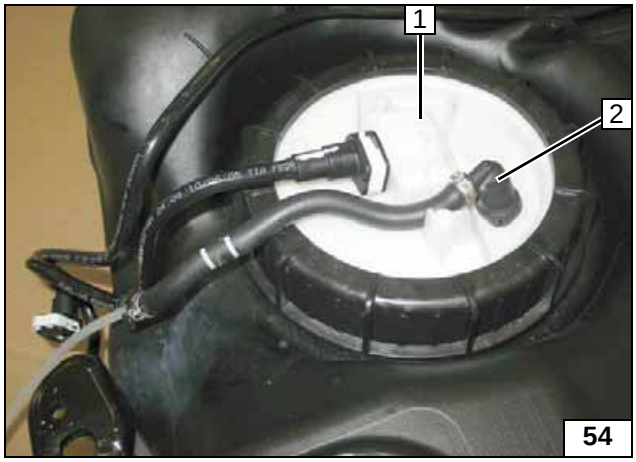
Paste fuel standpipe **2** in the connection piece **1** with suitable contact adhesive. Cut standpipe **2** to length obliquely at the end (measured from standpipe passage).

Installing fuel standpipe



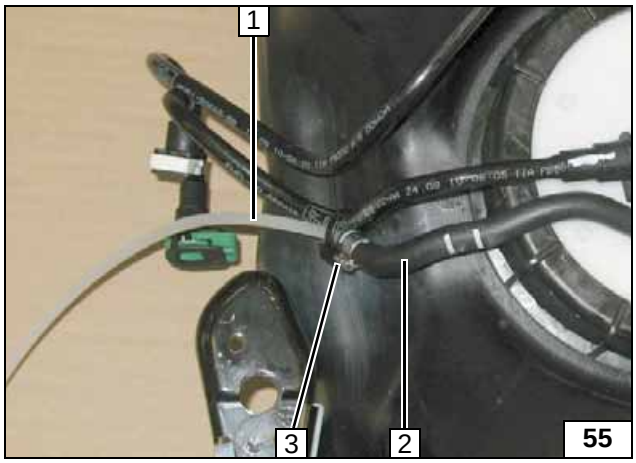
1 Installing retaining clamp
2 Standpipe

Fixing of fuel standpipe



Install fuel-tank sending unit **1** in accordance with manufacturer's instructions. Mount coupling piece **2** on connection piece

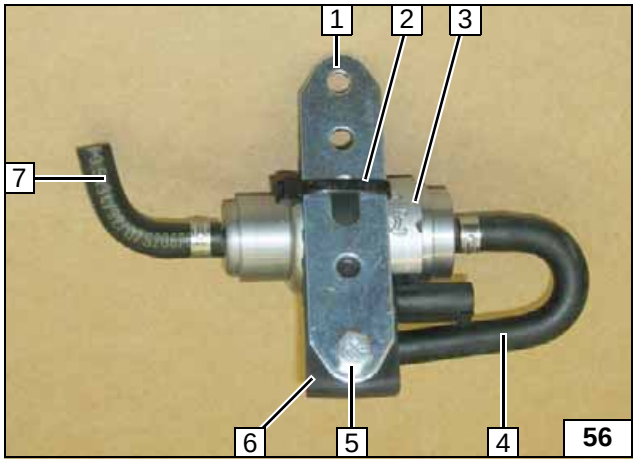
Fuel extraction



Install fuel-tank according to manufacturer's instructions.

1 Fuel line
2 Moulded hose
3 10mm dia. clamp

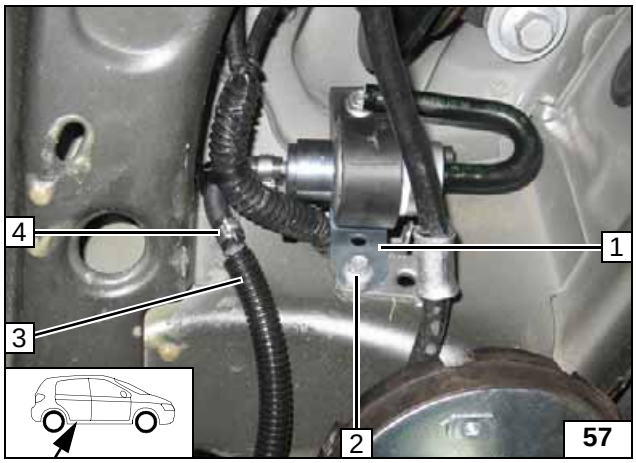
Connecting fuel line



Focus / C-Max

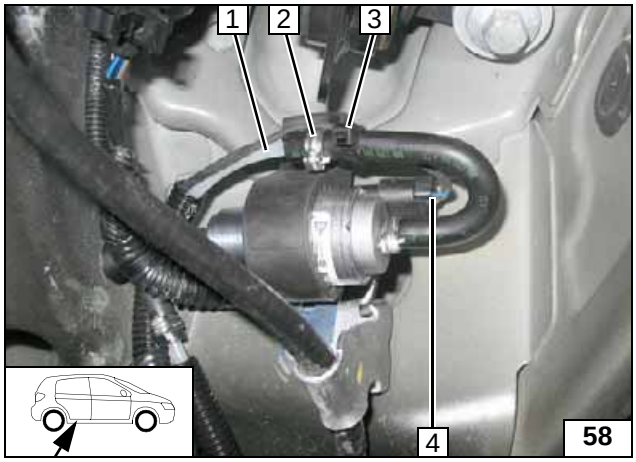
1 Perforated bracket
2 Cable tie
3 Metering pump
4 180° moulded hose, 10 mm dia. clamp
5 M6x25 bolt, flanged nut
6 Mounting of metering pump
7 90° moulded hose, 10 mm dia. clamp

Premounting metering pump



1 Perforated bracket
2 Original vehicle bolt
3 Fuel line of fuel standpipe in corrugated tube
4 10 mm dia. clamp

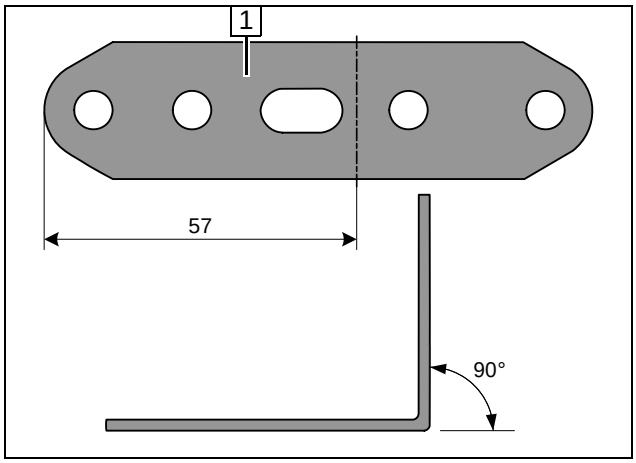
Mounting metering pump



Check the position of the components; adjust if necessary. Check that they have freedom of movement.

1 Fuel line of heater
2 10 mm dia. clamp
3 Cable tie
4 Wiring harness of metering pump, connector mounted

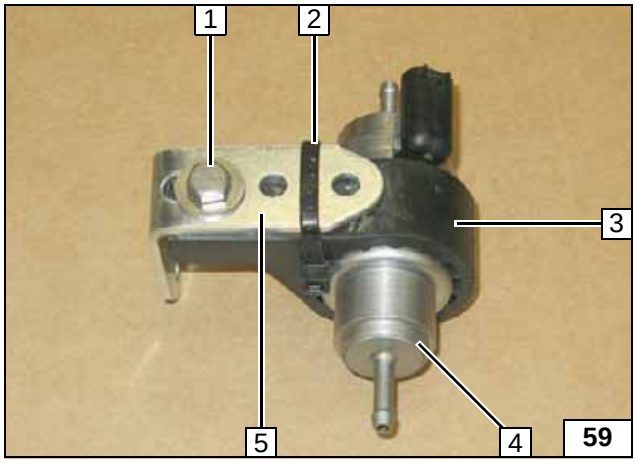
Connecting metering pump



Grand C-Max

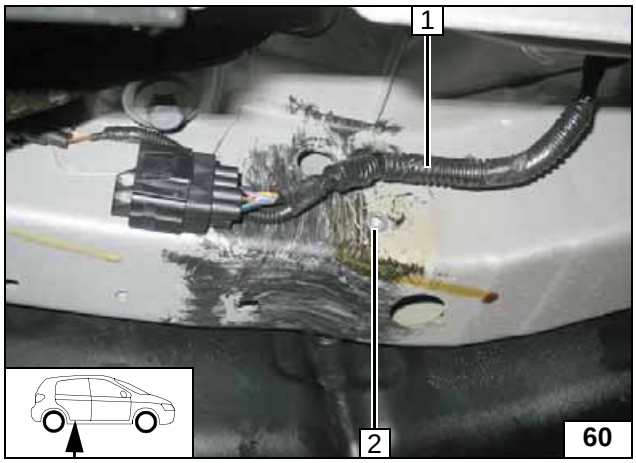
1 Perforated bracket

Angling down perforated bracket



1 M6x25 bolt, washer, flanged nut
2 Cable tie
3 Mounting of metering pump
4 Metering pump
5 Perforated bracket

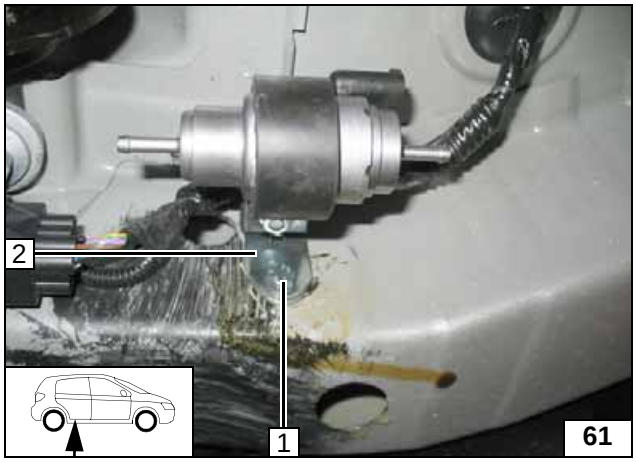
Premounting metering pump



Detach retaining clip of original vehicle wiring harness **1** at position **2**.

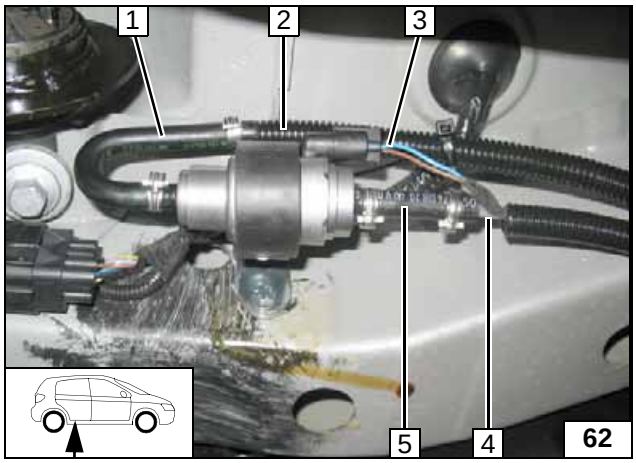
2 Drill out 9.1 mm dia. hole, rivet nut

Installing rivet nut



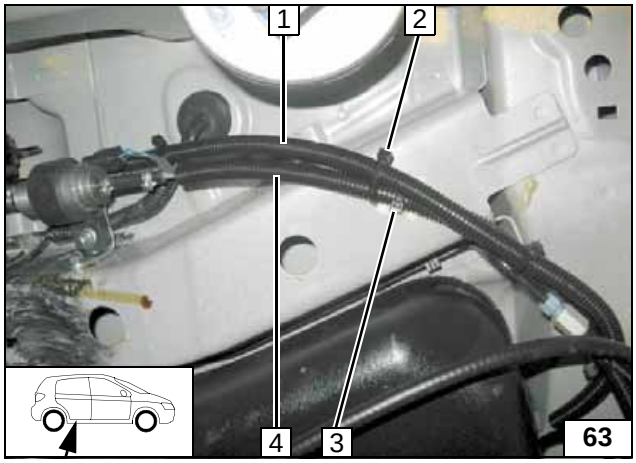
1 M6x20 bolt, spring lockwasher
2 Perforated bracket

Mounting metering pump



1 180° moulded hose, 10 mm dia. clamp [2x]
2 Fuel line of fuel standpipe in corrugated tube
3 Wiring harness of metering pump, connector mounted
4 Fuel line of heater
5 Hose section, 10 mm dia. clamp [2x]

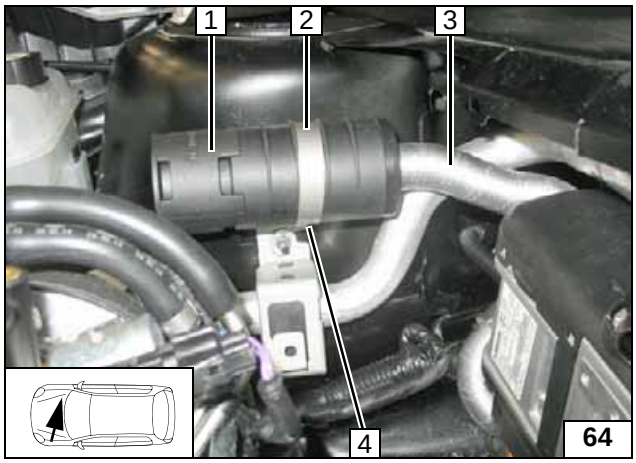
Connecting metering pump



Check the position of the components; adjust if necessary. Check that they have freedom of movement.

1 Fuel line of fuel standpipe in corrugated tube
2 Cable tie
3 Adhesive base, cable tie
4 Fuel line of heater and wiring harness of metering pump in corrugated tube

Routing lines



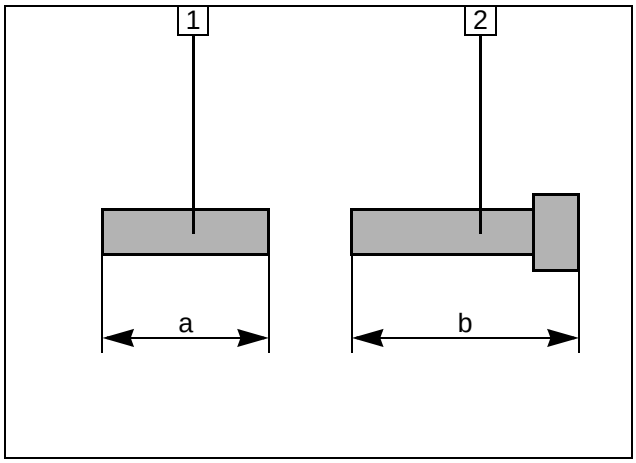
Combustion Air

1 Silencer
2 51 mm dia. clamp
3 Combustion air pipe
4 Original vehicle stud bolt, washer, original vehicle nut (covered by clamp)

Mounting silencer

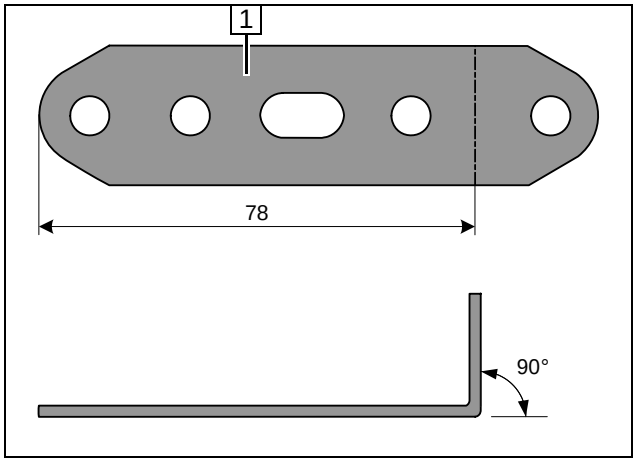
 © Webasto Thermo & Comfort SE

Exhaust Gas



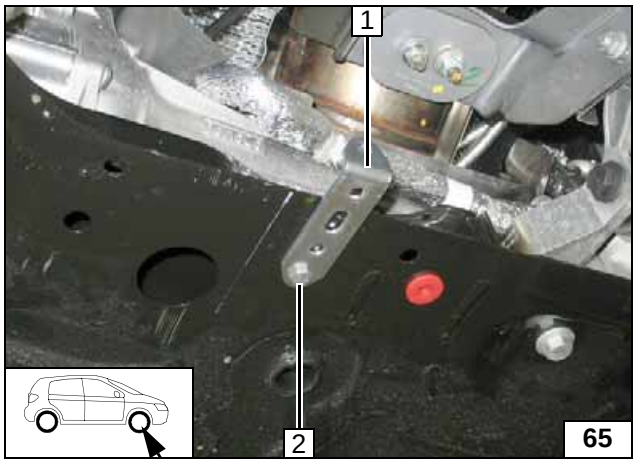
1 Exhaust pipe
a = 190
2 Exhaust end section
b = 350

Preparing exhaust pipe



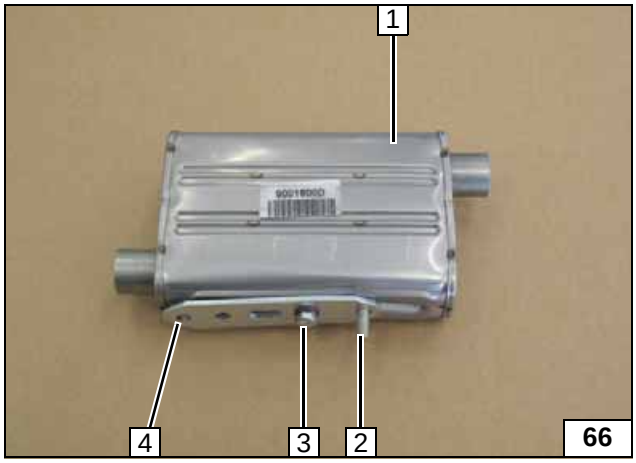
1 Perforated bracket

Angling down perforated bracket



1 Perforated bracket
2 M6x20 bolt, flanged nut, existing hole

Mounting perforated bracket

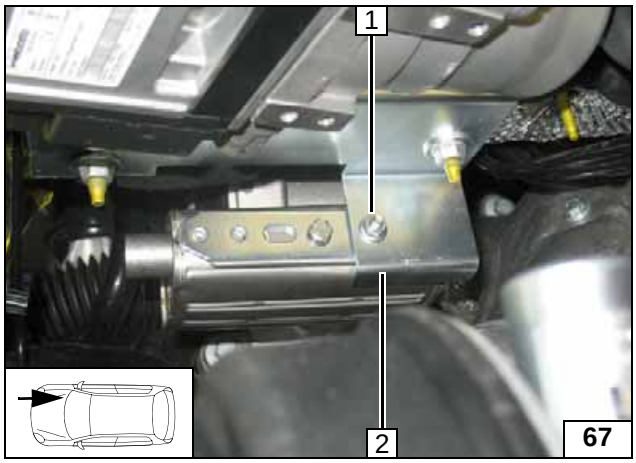


77kW Focus

1 Silencer
2 M6x16 bolt
3 M6x16 bolt, spring lockwasher
4 Perforated bracket

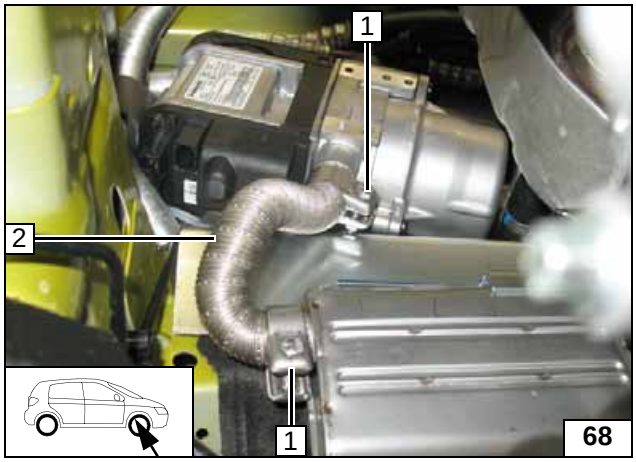
Premounting silencer

 © Webasto Thermo & Comfort SE



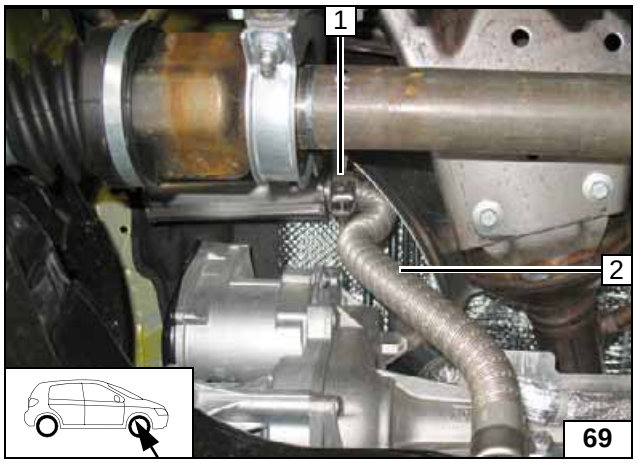
1 Flanged nut
2 Bracket

Mounting silencer



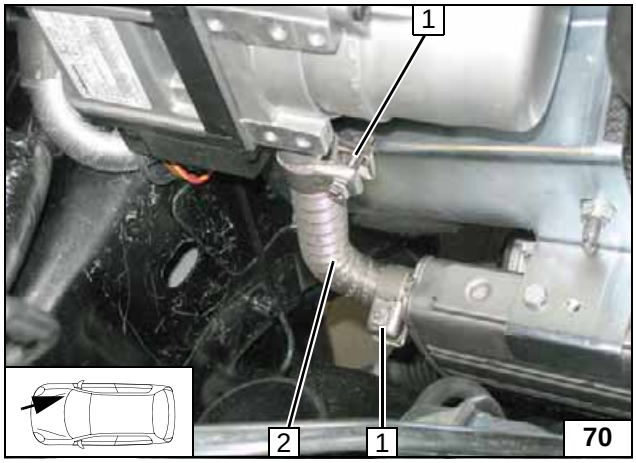
1 Hose clamp [2x]
2 Exhaust pipe

Mounting exhaust pipe



1 Hose clamp
2 Exhaust end section

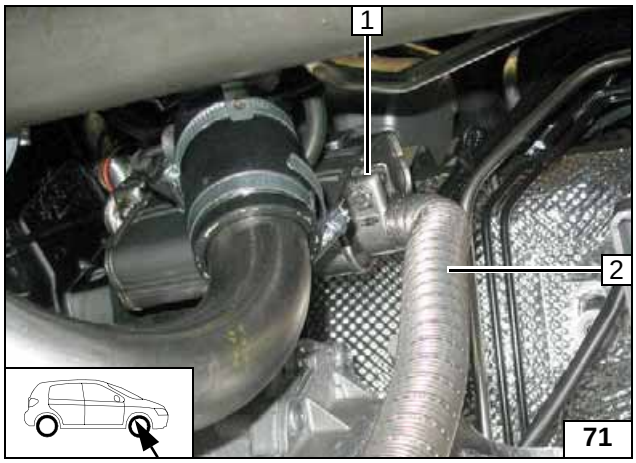
Mounting exhaust end section



92kW / 110kW Focus, C-Max and Grand C-Max

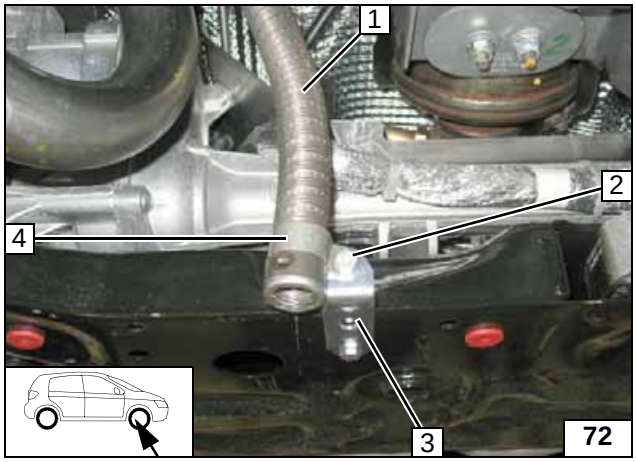
1 Hose clamp [2x]
2 Exhaust pipe

Mounting exhaust pipe



1 Hose clamp
2 Exhaust end section

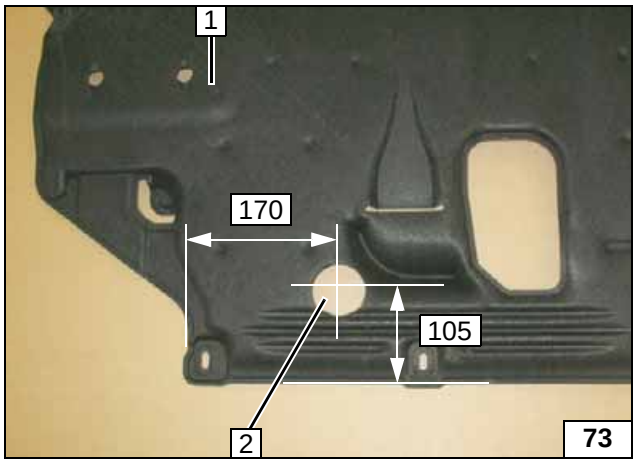
Mounting exhaust end section



All vehicles

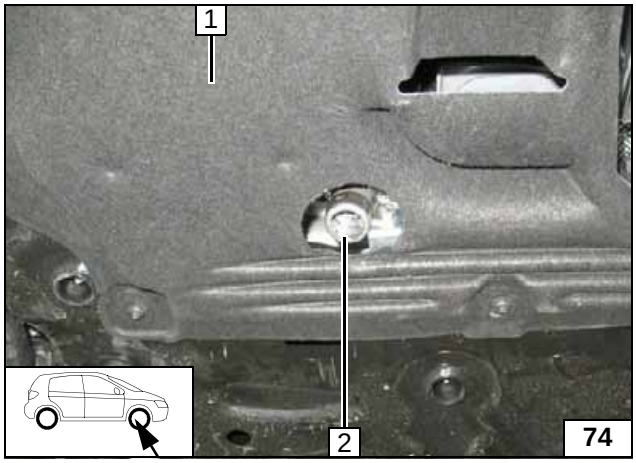
1 Exhaust end section
2 M6x20 bolt, flanged nut
3 Perforated bracket
4 P-clamp

Fastening exhaust end section



1 Underride protection
2 60 mm dia. hole

Cutting out underride protection



Mount underride protection of engine **1**. Align exhaust end section **2** flush on underride protection **1**. Ensure sufficient distance from neighbouring components.

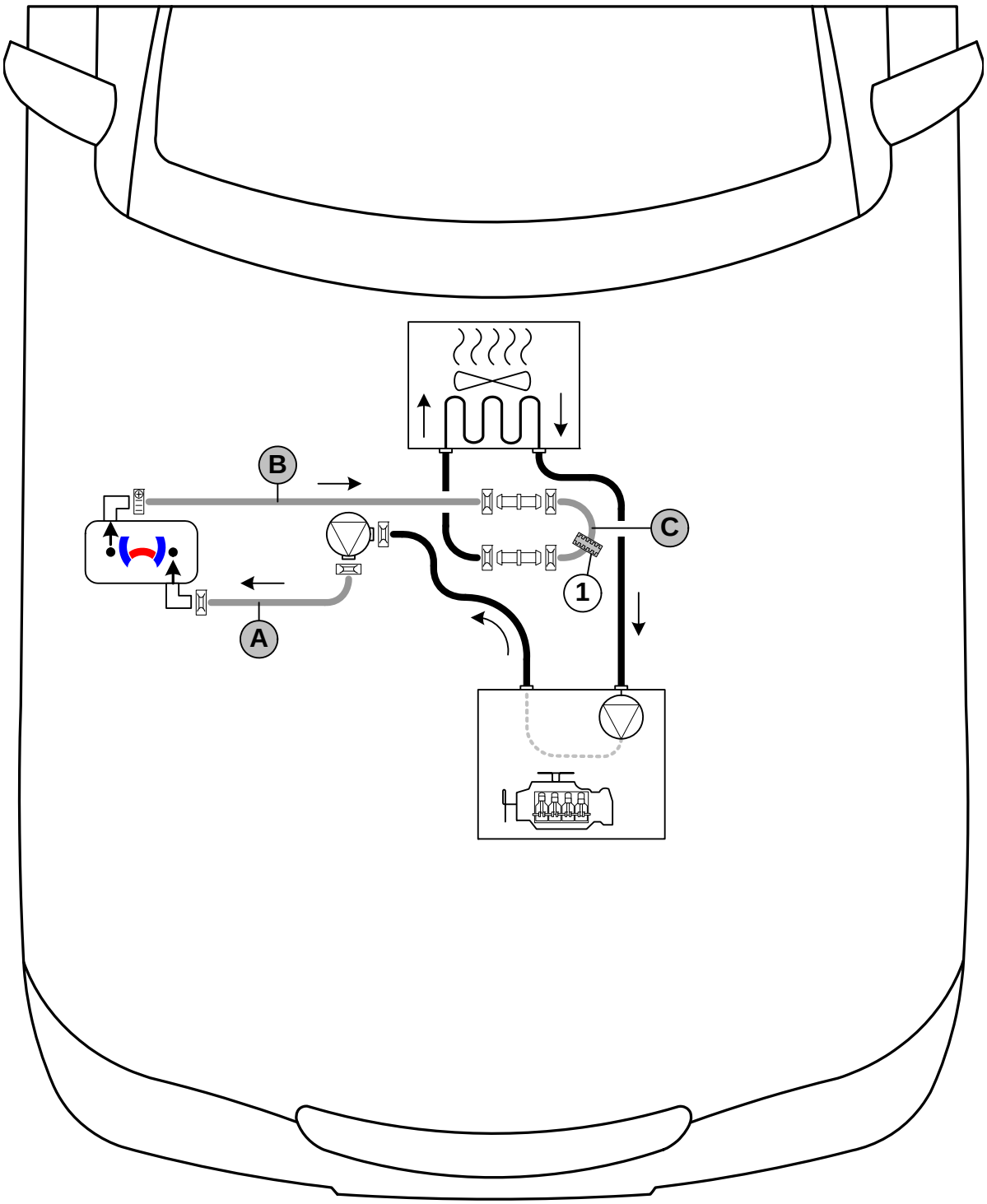
Aligning exhaust end section

 © Webasto Thermo & Comfort SE

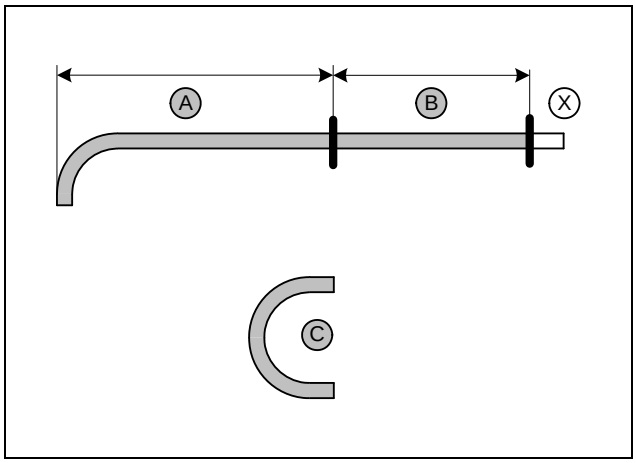
Coolant Circuit

WARNING!
Any coolant running off should be collected in an appropriate container. Route hoses kink-free. Unless specified otherwise, always fasten using cable ties. Position clamps so that other hoses cannot be damaged. When installing the hoses, the heater must be filled with coolant.
The connection should be "inline" based on the following diagram:

Hose routing diagram



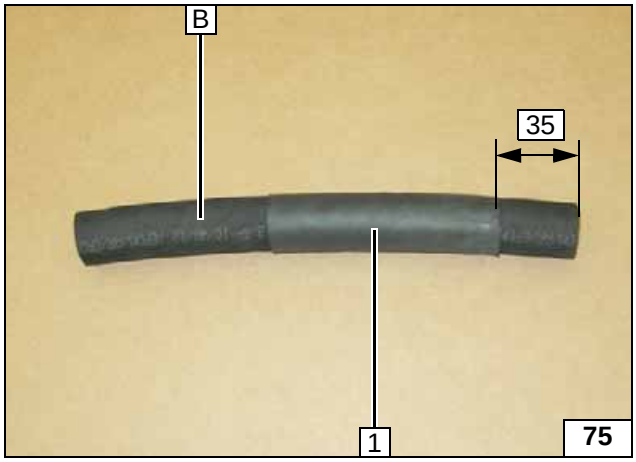
All spring clips = 25 mm dia. Hose clamp = 20-27 mm dia.
All connecting pipes = 18x18 mm dia.
1 = Black (sw) rubber isolator



Discard section **X**.
Hose **C** = 180°, 18 mm dia. moulded hose.

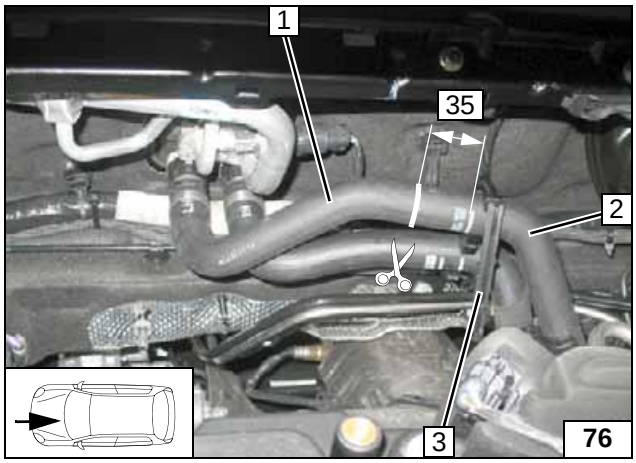
A = 260
B = 225

Cutting hoses to length



1 100 mm long heat shrink plastic tubing

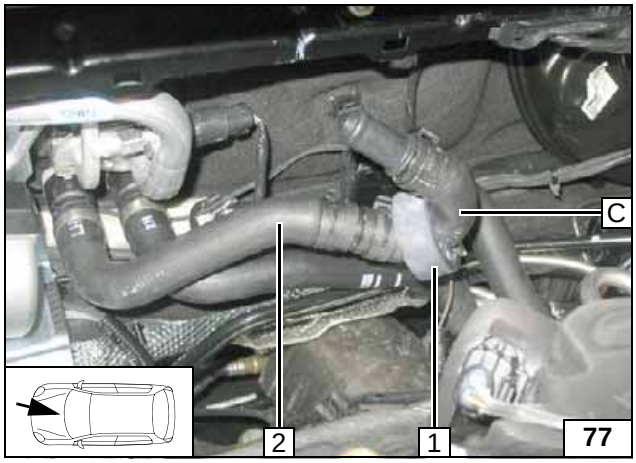
Preparing hose B



Cut hose of engine outlet / heat exchanger inlet at the marking. Open lock of original vehicle hose bracket **3**, will be relocked.

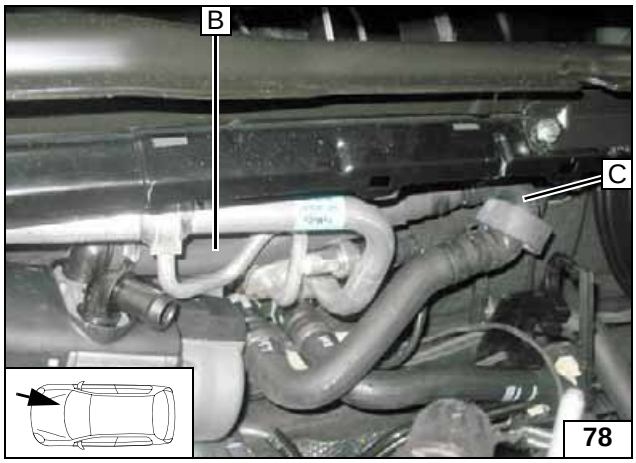
1 Hose on heat exchanger inlet
2 Hose of engine outlet

Cutting point

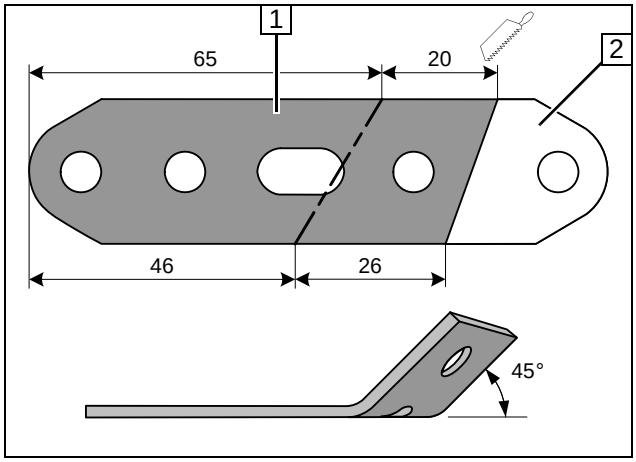


1 Black (sw) rubber isolator
2 Hose on heat exchanger inlet

Connecting heat exchanger inlet

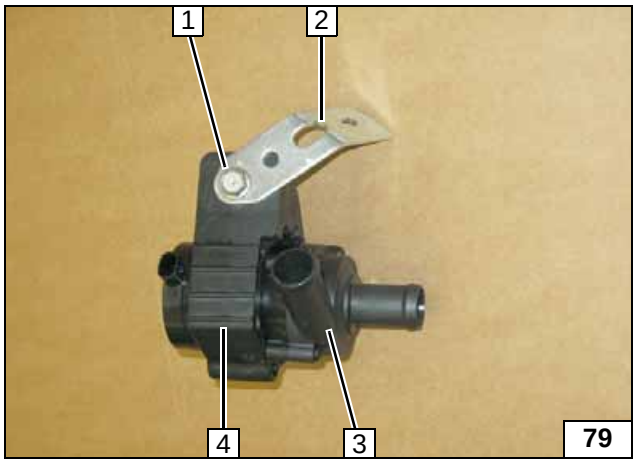


Connection on heater outlet



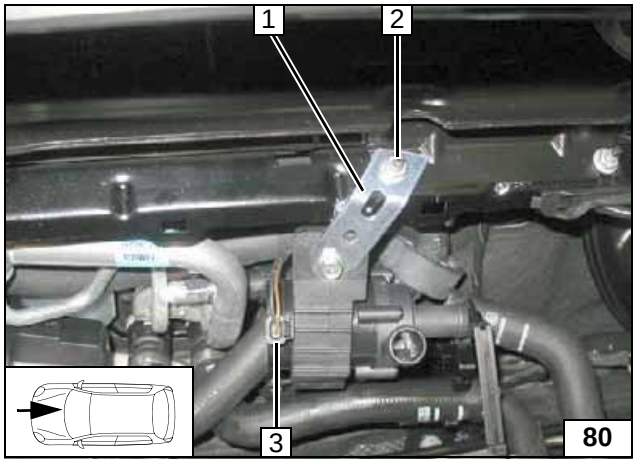
1 Perforated bracket
2 Discard section

Cutting to length and bending perforated bracket



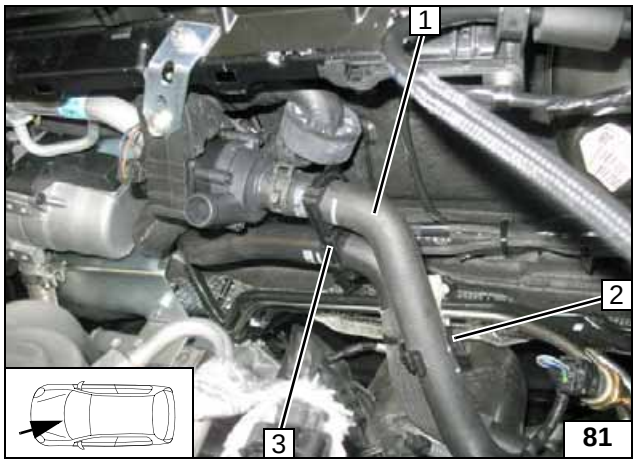
1 M6x25 bolt, flanged nut
2 Perforated bracket
3 Circulating pump
4 Circulating pump mounting

Premounting circulating pump



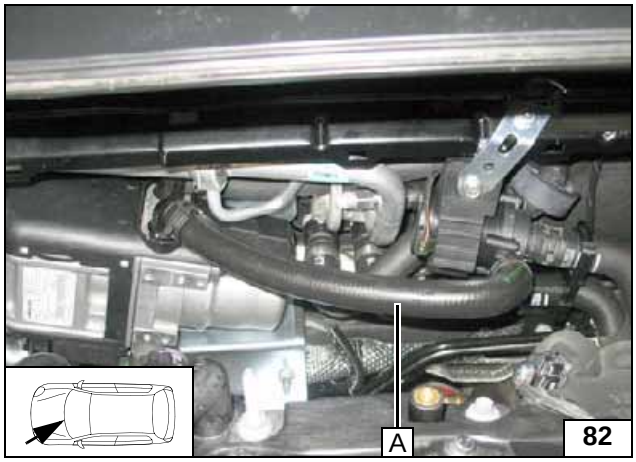
1 Perforated bracket
2 Original vehicle stud bolt, with nut
3 Mount wiring harness of circulating pump

Mounting circulating pump



1 Hose of engine outlet
2 Hose bracket
3 Close lock of hose bracket

Connecting engine outlet



Align hoses. Ensure sufficient distance from neighbouring components.

Connection on heater inlet

Final Work

WARNING!
Mount removed parts in reverse order. Check all hoses, clamps and all electrical connections for firm seating. Insulate and tie back all loose wires.
Only use manufacturer-approved coolant. Spray heater components with anti-corrosion wax (Tectyl 100K, Order No. 111329).

- **Connect the battery.**
- **Fill and bleed the coolant circuit according to the vehicle manufacturer's specifications.**
- **Adjust digital timer, teach Telestart transmitter.**
- **Make settings on A/C control panel according to the "Operating Instructions for End Customer".**
- **Place the "Switch off parking heater before refuelling" signboard in the area of the filler neck.**
- **See installation instructions for initial startup and function check.**

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Webasto
Feel the Drive

Operating Instructions for Manual A/C Focus

Please remove this page in case of manual air-conditioning and add it to the vehicle operating instructions.

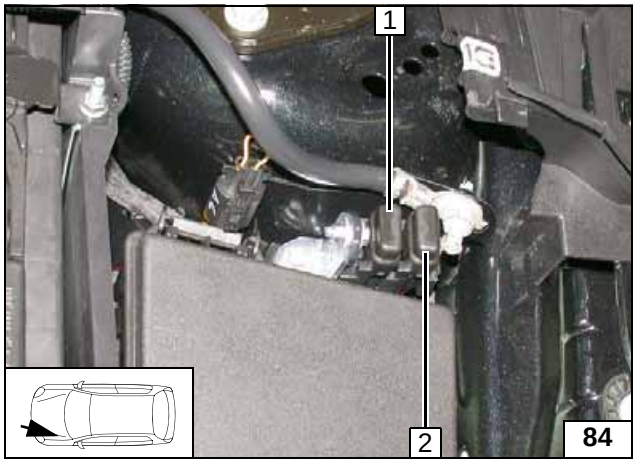
Note:
We recommend matching the heating time to the driving time.
Heating time = driving time
Example:
For a driving time of approx. 20 min. (in one direction), we recommend not exceeding a switch-on time of 20 min.

Passenger compartment monitoring , if installed, must be deactivated in addition to the vehicle settings for the heating operation.
Instructions for deactivation can be taken from the operating instructions manual of the vehicle.

Before parking the vehicle, make the following settings:

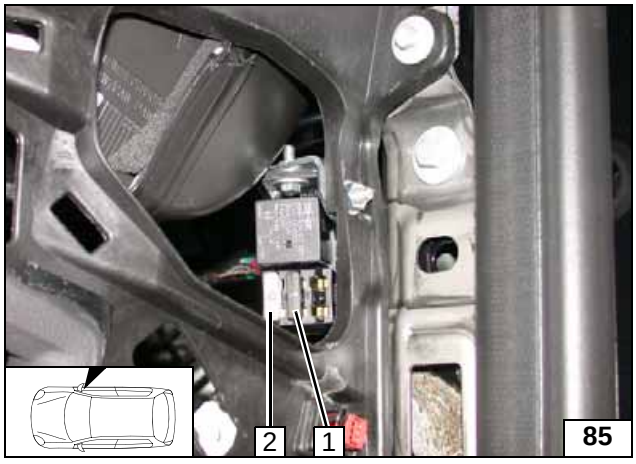
1 Set fan to level "1", or max. "2"
2 Air outlet to windscreen
3 Set temperature to "max."

A/C control panel



1 30A main fuse F2 of passenger compartment
2 20A fuse F1 of heater

Fuses of engine compartment



1 1A fuse F3 of heater control
2 25A fan fuse F4

Fuses of passenger compartment

Webasto
Feel the Drive

Operating Instructions for Automatic A/C Focus

Please remove this page in case of automatic air-conditioning and add it to the vehicle operating instructions.

Note:
We recommend matching the heating time to the driving time.
Heating time = driving time
Example:
For a driving time of approx. 20 min. (in one direction), we recommend not exceeding a switch-on time of 20 min.

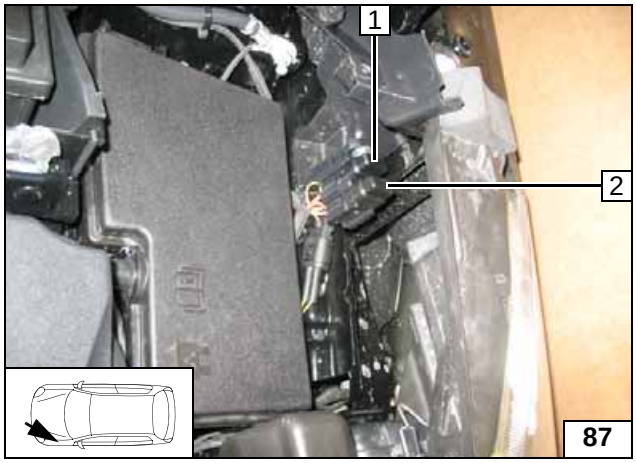
Passenger compartment monitoring , if installed, must be deactivated in addition to the vehicle settings for the heating operation.
Instructions for deactivation can be taken from the operating instructions manual of the vehicle.

Before parking the vehicle, make the following settings:

Fan speed need not be pre-set.

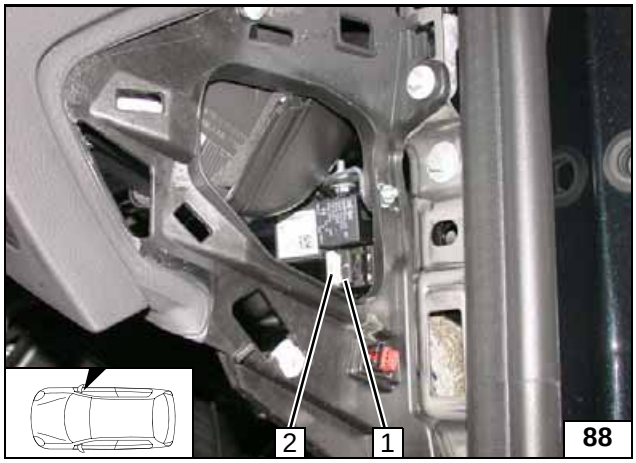
1 Set temperature to "HI"
2 Air outlet to windscreen

A/C control panel



1 30A main fuse F2 of passenger compartment
2 20A fuse F1 of heater

Fuses of engine compartment



1 1A fuse F3 of heater control
2 25A fan fuse F4

Fuses of passenger compartment

Webasto
Feel the Drive

Operating Instructions for Automatic A/C C-Max / Grand C-Max

Please remove this page in case of automatic air-conditioning and add it to the vehicle operating instructions.

Note:
We recommend matching the heating time to the driving time.
Heating time = driving time
Example:
For a driving time of approx. 20 min. (in one direction), we recommend not exceeding a switch-on time of 20 min.

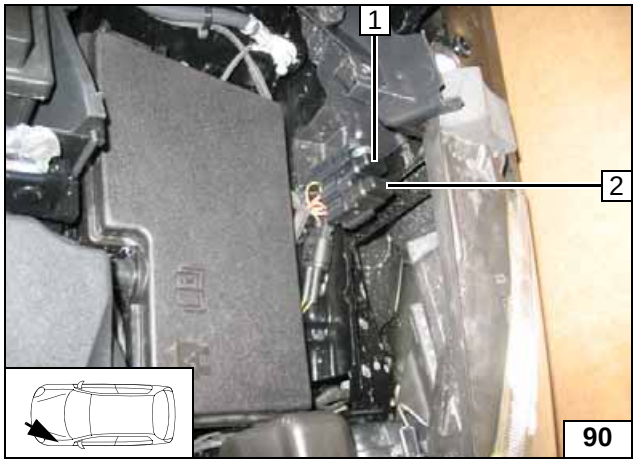
Passenger compartment monitoring , if installed, must be deactivated in addition to the vehicle settings for the heating operation.
Instructions for deactivation can be taken from the operating instructions manual of the vehicle.

Before parking the vehicle, make the following settings:

Fan speed need not be pre-set.

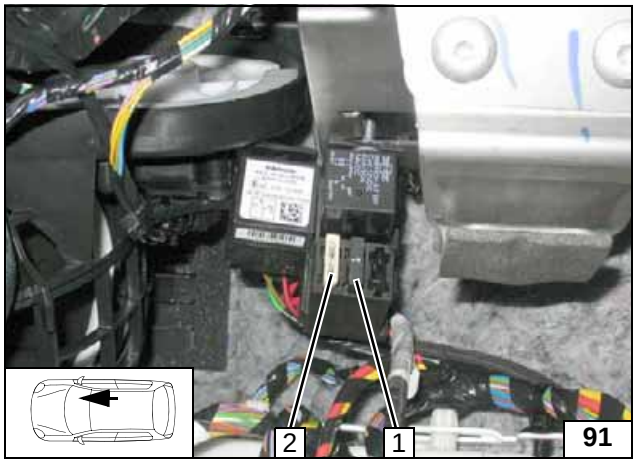
1 Set temperature to "HI"
2 Air outlet to windscreen

A/C control panel



1 30A main fuse F2 of passenger compartment
2 20A fuse F1 of heater

Fuses of engine compartment



1 1A fuse F3 of heater control
2 25A fan fuse F4

Fuses of passenger compartment